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PUBLIC HEALTH SERVICE
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NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH

convenes

MEETING 46

ADVISORY BOARD ON

RADIATION AND WORKER HEALTH

DAY THREE

MAY 4, 2007

The verbatim transcript of the 46th Meeting of the Advisory Board on Radiation and Worker Health held at The Westin Westminster, Westminster, Colorado on May 4, 2007.

STEVEN RAY GREEN AND ASSOCIATES
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C O N T E N T S

May 4, 2007

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P R O C E E D I N G S

(8:15 a.m.)

WELCOME AND OPENING COMMENTS
DR. PAUL ZIEMER, CHAIR
DR. LEWIS WADE, DFO

DR. ZIEMER: Good morning, everyone. I'd like to call the meeting to order. This is the third day of the Denver meeting of the Advisory Board on Radiation and Worker Health.

As you may recall, we have a couple of items that are left over from yesterday's agenda, and the plan is to take those up here first, those being the Dow Chemical SEC petition and then the Chapman Valve SEC petition.

Before we do that, I'll ask if our Designated Federal Official, Dr. Wade, has any preliminary comments.

DR. WADE: Just good morning, and thank you again for your service. This is sort of getaway day, so I always worry about losing members and losing quorum, so I guess I would ask if anyone has an inkling that they might not be here for the agenda as laid out, let me know. Again, there are important things to do in the beginning, middle and end of our meetings, and I don't want to lose a quorum --

or in fact, those at the table -- so let me know. Thank you.

DR. ZIEMER: Thank you. Question --

DR. WADE: He's going to tell us.

DOW SEC PETITION
MR. STU HINNEFELD, NIOSH, OCAS
PETITIONER

DR. ZIEMER: Okay, we'll do that off-line. Okay, let's begin then with the Dow SEC petition. We'll begin with the NIOSH petition evaluation, and Stu Hinnefeld at NIOSH is going to make that presentation.

MR. HINNEFELD: Thank you, Dr. Ziemer. My name's Stu Hinnefeld. I'm the technical program manager for OCAS in the program. I'm presenting the petition evaluation report and some updated information, since the petition evaluation report was prepared, today -- I think probably because I let LaVon Rutherford go on vacation right before this was due, so I think that's why I'm up here.

This is a -- an 83.14 petition. This is a site where we determined there was some aspect of the radiation dose that we did not have sufficient information to reconstruct and so we proceeded along the pathway of 83.14 SEC evaluation.

So some of the slides your normally see, like the two-pronged test, I've taken out of this for brevity because there's some addi-- because of the update information I put in here. Well, I'm sorry, there is the two-pronged test that you've all seen before: Is it feasible to estimate radiation doses of individual members of the class. And if that is -- the answer to that is no, is there a reasonable likelihood that such radiation dose may have endangered the health of members of the class. So those are the -- that's the test we evaluate when we do one of these 83.14 petitions.

This is about the Dow Chemic-- a site that was operated by Dow Chemical Company in Madison, Illinois. That's the site we're talking about now. This site is in Madison, Illinois. This site extruded uranium metal on a handful of occasions for the Atomic Energy Commission under a subcontract from Mallinckrodt Chemical Works, which was the operator of the Mallinckrodt St. Louis site and the Weldon Spring site, and they also straightened uranium metal rods under a -- this was under a purchase order agreement to Mallinckrodt for a couple of

-- a couple of -- on a couple of different occasions.

Now they also routinely handled thorium at this -- at this plant, and routinely incorporated it into their commercial metal al-- metal alloys plant. This was a -- a metal production plant, made magnesium and I believe some aluminum alloys, and -- and that was their main line of business. The -- the uranium work was just kind of something that they did -- they had a big extrusion press and the AEC was trying to -- they were studying the characteristics of what -- what works best when you're extruding uranium.

I -- I -- now to get into this a little bit, I need to talk a little bit about dose that is included under EEOICPA for AWE facilities. And the original EEOICPA legislation was amended by the 2005 Defense Authorization Act in two ways that affect this question, you know, what dose is included. The -- the first aspect amendment or first amendment that affects this is that it added a second category to the definition of an AWE employee. Up until this amendment, only employees who worked during the contract period

at an AWE were considered AWE employees and therefore could submit a claim under the law. This amendment amended that language and added -- by adding a second category of employee and saying that the second category of employee is a cate-- is a person who worked at an AWE site after the contract period but during a time when there was residual contamination from the contract period present during that time. So that's a second category and they're identified in the statute as subparagraph (a) and subparagraph (b) under one of the paragraphs. And the second amendment that occurred to EEOICPA by this Defense Authorization Act was that they provided a definition of radiation dose for the added category, interestingly enough. The definition of radiation dose -- this is for the purposes of such-and-such paragraph part (b), not such-and-such paragraph. Such-and-such paragraph part (b) radiation dose was defined, and this was the definition. I don't think I'll read it word-for-word, it's on the slides and the handouts to the slides, but it's essentially dose received from work done by -- for AEC to

produce, process, store, remediate or dispose of radioactive waste that was, you know, and for -- for the transportation and testing of nuclear weapons. So that was the work that -- this was part of the radiation dose.

And then the second part of the radiation dose definition is if there's dose that's not distinguishable through reliable documentation from the doses noted above. So in other words, if there -- if the pers-- if an employee at a site fo-- in the residual period, remember that's the category of employee we're talking about, is -- if the residual radiation at that site can be distinguished from contamination that would have occurred from the AEC work, then that residual dose is not part of the radiation dose assigned to these workers. So what the -- the outcome of this -- and there is -- oh, by -- and that's the final point of this. There is no similar limitation or definition of radiation dose on the original category of AWE employee, so -- so you don't have that limitation, that definition, and the -- and the statute I think at some point originally said reconstruct all doses at the

site.
So during the covered period, the contract period, all doses have to be reconstructed for an AWE employee. After the contract period, if there's a residual contamination period, the dose that's included under EEOICPA is dose from residual contamination from the AEC work -- okay -- not from the commercial work.
Now, summary of the information available for dose reconstruction -- and one other thing to remember on this, the thorium was used in the commercial operations at -- at Madison, and the uranium apparently was the AEC work. We know that they did uranium work for the AEC. We didn't have any individual monitoring, external monitoring results. We don't have any bioassay results, either in vitro or in vivo, for any of the employees at that -- you know, actually at this point for any employees at any time.
In 1957 we have the copy of the contract that calls for 12 extrusion cycles, each one estimates there's going to be like essentially 28 hours of work with an extrusion cycle. They were going to set up for six hours; run what they called testing, which was the extrusion,

for 16 hours; and then clean up for six hours. So that was the estimate of how much time was going to be spent on each cycle, and the contract called for 12 cycles.

We have documents from FUSRAP that describe two rod-straightening campaigns. We've also recently -- or at least we -- we know we now have the purchase orders from Mallinckrodt for the two uranium-straightening cam-- campaigns. And we had a 1957 paper by the Dow radiation safety officer who worked from Dow headquarters -- he didn't work at the Madison site, he worked from Dow headquarters -- that describe the use of thorium, and it contains about 20 air sample results -- at the time we thought from a single sampling (sic) campaign -- and a handful of radiation surveys.

We also had a 1960 AEC inspection report that refers to the 1957 air monitoring results. In other words, it -- it kind of presented this -- the air -- you know, the air quality is okay because we have these 1957 results. Even though it referred to them as recent air sampling results, it actually -- the collection had been '57 and even '56 when those were

collected. And they had a handful more direct radiation measurements and it had the amount of thorium used up to that time.

And we have the FUSRAP survey summary report that was -- this -- the survey was done in 1989. I think the report was actually published in 1990, and that's -- that FUSRAP survey was done of only a limited portion of the facility, the portion of the facility where the uranium work had been done. So they didn't survey the entire Madison facility, they only surveyed that. They found really very little in terms of contamination or elevated dose rate, and they did -- but they did collect some dust samples that they analyzed for -- isotopically, and they found some uranium and thorium in those.

Now our data capture attempts -- recognizing that, you know, at the start of, you know, this effort we hadn't necessarily completed all this regu-- all this data capture, we proceeded and -- and made these attempts at data capture.

The NRC, of course DOE Germantown had provided us what they had. We have searched federal records repositories as part of our rou-- our

part. We've had worker outreach -- we had a worker outreach meeting in Collinsville, Illinois and we received quite a lot of worker affidavits that also described how the work at the site -- described pretty harsh working conditions.

We made a request to Dow Chemical and -- about do you have any records from the site; even though you haven't owned it for 35 years, roughly, do you have any records from the site. And we had a discussion with the state of Illinois about regulatory records they might have for this covered period, but Illinois was not yet an agreement state in 1960 and so they didn't really have anything for the period we were researching.

So we determined that we had -- you know, this is late last year, we determined we didn't have sufficient information to complete dose reconstruction at the time. We notified the -- the -- a litmus tas-- litmus case claimant that his dose reconstruction could not be completed and we gave him a Form A SEC petition. He returned it on November 28th.

This was about the time -- I think it was based

on discussions at a Board meeting that we said, you know, we really need to make sure we've done, you know, the due diligence on data capture and see if we've really found everything we can, so we went down those aven-- those avenues. We wrote to Dow asking -- hang on a second.

(Pause)

I apologize, I'm out of sequence here. I don't think I have all my slides up here, but... yeah.

There's a sequence of events and sequence of slides that are not on the screen. I think they're in the handout --

DR. ZIEMER: They are.

MR. HINNEFELD: I've got my handout here. Okay, we requested -- we wrote to Dow asking do you have any records about this. We didn't hear anything for about two weeks after we wrote to them, we -- so we called them and engaged them in a telephone call. It's the kind -- you know, a few people on our side and a couple of people on their side, and they said well, we actually have just -- responding -- we've just signed the letter responding to your

request and we are going to go search for records. And they warned us that, look, we haven't owned this site for a long time. We don't know we're able -- we'll find anything, but we'll go look, and they asked for a little mo-- from some more specificity about what it was we were asking for. So we provided more specificity.

We sent an e-mail, trying to be more specific than we were in the letter request, about kinds of information we were asking for and what we were looking for. And we were looking for information related to thorium work from 1957 to 1960, and any information about maybe uranium -- the uranium work or uranium contamination or the uranium -- the contracts, et cetera, with AEC about that.

On Mar-- in March 13th, after Dow had been looking for maybe three weeks, we called them to find out the status. They indicated that they had compiled possibly responsive documents -- you know, essentially collected boxes from various records storage areas that they had, based on database searches and keyword searches. In other words, that's how they

looked in the first place, and they retrieved a bunch of documents and they indicated that they would have to inspect those documents in order to tell for sure if there were things in there that were responsive to our request. So they brought back pretty much anything that would hit, based on their keyword searches that they made, any of those hits, and looked at those. But they did tell us at that time that they had no indication that they had any personal monitoring data. But they said that they would take some time to inspect those to tell them if they were -- and on -- based on that phone call, all of the OCAS participants on the phone call were under the understanding it would take about ten days to do this visual inspection of the records that they had collected.

So we called them a little later, expecting them to be done, and they indicated at that time that the inspection hadn't started as intended because of weather issues and the person was going from Chicago to Midland to actually visually inspect these records hadn't been able to get out of Chicago because of weather, so it had only -- so the inspection

was just starting on February -- on March 26th, whereas we thought it would be done. We -- still, we felt like another ten days and it'll be done. We were still under the impression it was going to be about a ten-day effort.

So we called them about ten days later, and at that point we found out they were about 25 percent done and it would take till the end of April to -- before they had completed their visual inspection and could tell us if they had responsive documents or not.

So of course the end of April has just happened, and we didn't want to delay our presentation any more, and so we felt confident proceeding with the petition evaluation report with the information we had. And the reasons for that were that they had indicated that they had no indication of personal monitoring data, and we had -- at the time we had recei-- we had two documents that we had received from our search of NRC records, that '57 report from the radiation safety officer and the 1960 AEC inspection report. The AEC report in 1960 referred to 1957 data for air sampling data, so we said it doesn't seem like they're going to

provide us any more air sampling data during this covered period. So we decided we would go ahead and so it was placed on the agenda for today's meeting.

And then on Saturday they responded and sent us seven -- about 700 pages of documents that were responsive in some nature to -- to what we'd asked for. And so since Saturday we've -- we've read those documents. We've reviewed them in light of what we've -- what we had at ti-- what we had already, and there is -- so the information we received will cause us to change some of the details in our SEC evaluation report, like number of samples. We found maybe -- maybe there's another maybe dozen to 15 air samples that were collected. But those were also collected in the 1956 time frame.

We found -- you know, we got many manifestations of the same data over and over, and we found very few samples actually were taken after the 1956 data that was cited in the 1957 report by the RSO. The samples that were taken later generally were on a specifically limited activity, like they took some samples

on sanding of an alloy, you know, and -- and some air samples that resulted from that. So there was actually very little additional data that we received that related to internal exposures to thorium over the weekend.

We recognize that the ownership -- the data ownership change might be -- has to be revised. The evaluation report says that Dow sold the site to Consolidated Aluminum in 1969, but in fact that sale occurred in 1973. Dow discontinued its operation in 1969 and leased the -- leased the site to Phelps-Dodge, but the sale didn't occur until later.

So the additional information received over the weekend hasn't changed our -- our original recommendation that we don't have sufficient information to reconstruct the thorium dose from the 1957 to 1960 period. Because of the complexity of the process, the short duration of the samples -- I think probably the majority of these samples were of the duration of maybe five to 20 minutes -- we don't have repetitive samples over time of an operation to kind of figure out how the -- the operation changed over time, there are comments in -- during some

of the collections about the normal ventilation was enhanced by opening the windows and turning on these fans. And so, you know, we don't feel like we can say with confidence that the limited sampling that we have from early on provides us sufficient information to really decide, you know, and bound what -- how conditions may have been during four years of operation with this material.

We did get in -- over the weekend we did get some additional external radiation measurements that may in fact allow us to reconstruct an external component of the -- of the thorium dose, whereas before we didn't think we had enough data to do that, either, but we may be able to do that with the additional data.

Now for the uranium work, the covered work, we have prepared sample dose reconstructions -- they've been on the O drive for a while -- that describes essentially an OTIB-4-like method. That is, the method we use for com-- you know, it's AWE-wide method for the -- describes airborne data that was encountered during the early AWE operations as -- and it's used as sort of a bounding -- this is a bounding

estimate and it's used in many applications, and we've used that in many applications. It's likely that we can do a -- a more refined estimate (unintelligible) than that because now we have available to us a -- again, a multi-site site profile that was prepared by Battelle that has operation-specific air monitoring data. For instance, it has a collection of air monitoring data that was taken during extrusion runs over time, for instance, at various sites. And it has data collected for straightening uranium at various times. And these -- since this is essentially a metal-forming operation -- I mean you know what they did. They took metal and they shaped it, either extruded it or -- or straightened it. That's a pretty, you know, well-understood -- you know, kind of a small variation in -- in the work that's done. Whereas the thorium worked seemed to be quite variable in terms of the kinds of things that were done and the extent of the -- of the work, and it just seemed to be a -- quite a -- a diverse set of activities that would not -- you know, you couldn't really confine to essentially a constant set of conditions.

Okay, so I think I am now back to the point where the slides are on the screen.
So our conclusion is that we lack sufficient information to estimate the internal doses resulting from exposure to thorium. At the time it was unlikely we had sufficient information to estimate the contribution from thorium; we may in fact have sufficient information to estimate the thorium dose. This would be applied during the covered period.
We believe we have access to sufficient information to estimate the maximum dose that could have been incurred from the exposure to the uranium during the contract period and during residual contamination period using methods similar to OTIB-4. Like I said, OTIB-4, we believe we can bound the dose with an OTIB-4-type approach, or we may be able to (unintelligible) a more refined estimate based on the operation-specific data that we have in the Battelle document. There is the more precise...
And we believe we can estimate occupational medical dose using complex-wide approaches again.

We've determined that the members of the class were not exposed to extremely high radiation dose during discrete incidents like a criticality accident, but we believe there is evidence that workers suffered a cumu-- or accumulated chronic exposures that could in fact endanger their health.

So the proposed class definition is here. It's all AWE employees who were monitored, or should have been monitored, for exposure to thorium radionuclides while working at the Dow Chemical Company site in Madison, Illinois for up to 250 -- or for a number of days aggregating 250 between January 1st, 1957 to December 31st, 1960, or in combination with -- in aggregate with other sites -- other classes. And our recommendation is to add that class definition because we feel like that we don't have enough information, it's not feasible to do accurate dose reconstructions from the thorium -- internal thorium dose during that covered period, and we feel like there was sufficient dose that it could have very well endangered their health.

DR. ZIEMER: Okay, thank you, Stu. Next we'll

-- we'll hear from [Name Redacted] who's speaking on behalf -- or is one of the petitioners. And [Name Redacted], we'll be pleased to hear from you at this time.

[NAME REDACTED]: Let's see, can I get some help from somebody? I do have a Powerpoint to get started. Can you help me on...

(Pause)

Good morning to the Board and -- and I thank you for letting me make this presentation. I'm very happy to be here today.

I am [Name Redacted]. I'm a Missouri physician and a pathologist, and a former faculty member for [Identifying Information Redacted] years at Washington University School of Medicine in St. Louis.

While there I published almost 200 scientific articles and abstracts and held [Identifying Information Redacted] NIH federal grants. This year I published a textbook on [Identifying Information Redacted].

I have worked actively since 2000 on nuclear industry issues that affect human health. My remarks today are solely focused on Dow SEC petition 79. [Name Redacted], is the NIOSH

identified petitioner, and I am his designated SEC petitioner. This report is entirely my own. No one else has seen it or edited it.

I represent members of the Southern Illinois Nuclear Workers, our acronym is SINuW. I have worked with the former Dow workers and ConAlCo workers and present-day Spectrulite workers for almost two years. I feel I know them and the Dow Madison site operations very well.

An overriding consideration here is we were very hampered by lack of access to primary site records. Two members of our SINuW SEC team, Robert Stephan from Illinois Senator Obama's office and Debra Detmers from Illinois Congressman John Shimkus's office, will make remarks that amplify mine. Congressman Shimkus and Senator Obama called to address the Board about this SEC previously. And they and Senator Durbin and Congressmen Jerry Costello of Illinois have also written letters in our behalf.

As have other SEC petitioners, I want to express my appreciation to the Board, to SC&A and to NIOSH for their help in this complex SEC process. Laurie Breyer and Larry Elliott at

NIOSH, and many others at OCAS, have provided assistance that I and SINuW deeply appreciate. There are five overarching issues that I will address in turn about the Dow SEC. The first is timeliness issues. I was first notified about a Dow 83.14 on 9/6/06 by LaVon Rutherford of NIOSH, and a litmus case candidate was tentatively identified. I was informed that ORAU would construct a class definition and select a final litmus case in the next 30 days. Sixty-two days later I was informed the first litmus case, a worker who first filed a claim in August of 2001, started after the end of the covered period of 1957-'60 and therefore had been rejected.

[Name Redacted] received his Form A from NIOSH on November the 14th, 2006. Court reporter verbatim transcripts, [Name Redacted] Powerpoints and videotape recordings of three July through August, 2006 Dow worker meetings that included a NIOSH outreach meeting were delivered to NIOSH in November of 2006. [Name Redacted] returned his signed Form A with 37 affidavits to NIOSH on November the 27th, 2006. Affidavit seven of that batch refers to thorium

shipments to Rocky Flats, and affidavit number nine of the same batch gives details about thorium source terms that differ markedly from the NIOSH evaluation report as listed on page 13 of the 18-page report.

The SEC evaluation report and presentation to the Board was postponed by NIOSH shortly before the December, 2006 Naperville, Illinois meeting. And then the SEC 79 petition was qualified on December the 14th of '06 and published in the *Federal Register*.

Early in the next year, on January the 30th, NIOSH and Mr. Hinnefeld sent Dow Midland headquarters a request, and in the request the letter mentioned monitoring data, source term data, operations data and information related to magnesium/thori-- thorium alloy shipments from 1957 to 1998 relating to the Dow Madison, Illinois site. The Dow SEC evaluation report and presentation to the Board was postponed for a second time by NIOSH shortly before the February 7th to 9th Mason, Ohio meeting. Four new NRC reports had emerged.

A Dow SEC update session was held February the 8th, 2007 at the Board meeting, and a 7384W

subpoena to obtain Dow Madison records was discussed, and the Board tasked SC&A to become familiar with Dow SEC records.

After that time the delays in getting reports seemed to accelerate, if a delay can accelerate, but the rate of my receiving things late increased. For example, three redacted Dow worker meeting transcripts from July/August of 2006 were posted on the OCAS web site between April 17th and 19th of this year. The Dow SEC petition with the first 37 affidavits was posted on the OCAS web site after months of redaction. The Dow second set of 29 new affidavits was posted on the OCAS web site on April 18th. Those affidavits are extremely important because in them 11 additional workers testify that Dow shipped truckloads of magnesium/thorium allow to Rocky Flats in Colorado. NIOSH did not challenge the credibility of the second set of affidavits.

The SEC 79 evaluation report was finally posted on OCAS web site April 19th, 2007. And Larry Elliott had kindly sent me an electronic copy on the 13th and a hard copy by FedEx on the 19th.

Four members of the Illinois Congressional delegation requested the Board extend the Dow SEC class definition to cover the 1961-'98 residual uranium period on April the 27th. And on that same day, at midnight, Dow Midland posted a 52 megabyte zip-compressed archive with hundreds of documents on an FTP server at midnight, minus any index or explanation of what the documents represented. I was not sent that document. I got a copy by being alerted by Robert Stephan and [Name Redacted]*. What is -- was of great interest to us was the previous year, in 2006, SINuW had had independent negotiations with Dow for the same set of documents, and we had gotten no responsive records at that time.

On February the 8th, 2007 the Board meeting transcript was posted that contained the records of the -- of the Dow SEC update session. That was posted on April the 30th in the afternoon.

And then finally I got an e-mail from Larry Elliott that the new Dow files that NIOSH had received on the 27th of April might cause NIOSH to ask the Board to delay a vote on the SEC

petition on May the 3rd. We strongly oppose that and I'm very happy to see that we have now brought the petition evaluation report to the Board today.

The second issue that I want to mention about is some comments about the evaluation report itself that was posted on the web site on the 19th of April. We developed 22 specific concerns with this report that translated into 14 specific questions that were presented to Larry Elliott and NIOSH on the 16th. A copy is attached of these concerns and questions, and they should be carried as an integral part of this presentation.

Eight of the 14 questions were treated by NIOSH as FOIA requests. SINuW has requested that this decision be rescinded for the air monitoring and the dose rate data and the references, and that these data and reports be sent to me immediately as part of the SEC petitioner openness process. I regret that I still have not had these records.

The following points were most disturbing after the long wait and late arrival of the evaluation report: One was the limitation of

the class to 1957-'60, and exclusion of the uranium residual period, which we didn't believe was adequately justified.

Two, the important negotiations with Dow Midland and [Name Redacted] for Dow Madison records was not even acknowledged or described as to outcome.

Third, the crucial affidavit testimony regarding a close working relationship between the AEC, Rocky Flats and Dow Madison site for thorium allows was overlooked, an inexcusable oversight and rebuff to the workers and to all the people that carefully prepared the site expert testimony. Note that there is no Dow site profile, and that the Dow site-specific appendix to Badelle (sic) TIB-6000 which Stuart just mentioned will not be forthcoming. There won't be an appendix for uranium on TIB-6000. This was according to Larry Elliott in a conversation with Dr. Lewis Wade on April the 17th where we were talking about the SEC arrangements. The rationale for not including a Dow-specific appendix to TIB-6000 does not make sense to me. We -- we disagree strongly with NIOSH that ORAU-OTIB-04 Rev. 2 -- we

disagree with NIOSH that ORAU-OTIB-4 Rev. 2 is adequate to reconstruct uranium doses at Dow because this technical document does not adequately cover exposures to uranium extrusion and rod-straightening in the rolling mill section, or to uncharacterized known impurities and chemical composition shifts in the uranium ingots that Mallinckrodt produced. It does not cover exposures to collate -- co-located thorium-232 dust from the 1998 cleanup by USACE -- that's the Army Corps of Engineers. So although OTIB-4, which was mentioned in the report, does cover uranium, we would agree with Stuart and NIOSH that -- that there must be a document like OTIB-6000 that covers the extrusion and rod-straightening procedures. But unfortunately, as I just mentioned, there won't be an appendix specific for -- for Dow about this.

Third item is the extension of the class definition period to cover the uranium residual period. As of 4/26/07 the Madison site has submitted 322 Part B and E claims, 278 cases representing 261 unique individuals, with 107 cases having been referred to NIOSH. Only two

dose reconstructions have been performed since 2001, and one claimant has been paid. Claims have been submitted for workers from all the owners, including Dow, ConAlCo and Spectrulite. OCAS acknowledged repeatedly that petitioner McKeel is interested in having the SEC cover the residual contamination period from 1961 to 1998 in addition to the operational period, the contract period of 1957-'60 for Mallinckrodt experimental uranium extrusion and rod-straightening work. Approximately 70 claims, 41 of which have SEC cancers, will be covered under a 1957-'60 class definition; whereas the broader Dow class from 1957 to 1998 that I'm asking for would include at least 23 additional workers, including the candidate litmus claimant who filed in August 2001 and whose Part B claim is still pending. The exact number covered under a 1957-1998 extended SEC class is still unclear, and NIOSH is updating those figures for the Board. On February the 8th, 2007 Larry Elliott acknowledges in the public session that EEOICPA does not preclude SEC coverage of the residual uranium period, and that this period is covered for ordinary

dose reconstructions. The legal department opinion that restricts NIOSH to doing dose reconstructions under SECs to just the covered contract period and not the residual period is cited in e-mails and so forth, but has never been documented as being a written policy by NIOSH by a named person on a particular date that we have seen. The NIOSH SEC evaluation report admits that regular EEOICPA claims can be compensated for 1957 to 1998, but limits the SEC class definition to 1957-'60 with what we feel is a flawed and hard-to-grasp explanation. And as I've mentioned, both U.S. Senators from Illinois and two U.S. Congressmen from Illinois have joined in a bipartisan request to NIOSH to extend the class coverage out to 1998.

Now we come to that very important -- the fourth point, which is Dow Madison relationships with the Atomic Energy Commission and thorium production and residual contamination thorium. The U. S. Army Corps of Engineers FUSRAP 2000 report contention that, quote, no Dow Madison site thorium work was AEC-related, end quote, cannot -- cannot be backed up by any primary document, as

determined in a June, 2006 face meeting between USACE, SINuW members and Congressman Shimkus's office in the Army Corps of Engineers' St. Louis district office. The Corps did find uranium and uranium dust being colla-- co-located above the extrusion press rafters in building six, and the reason for that of course was that the same extrusion presses, the light press and possibly the heavy press, were used for both types of extrusion, so you expect to have a mixed contamination above the presses. We contend the AEC and commercial thorium streams at Madison site are not separable, and hence thorium should be calculated in dose reconstructions throughout both residual uranium and thorium contamination periods that extend at least up to 1998. In addition, 11 Dow workers provided sworn notarized affidavits to the effect that the Madison plant shipped truckloads of thorium/magnesium metal alloy to Rocky Flats and the S-- and the AEC. These affidavits go unchallenged for credibility by NIOSH at the time of submission. SINuW strongly argues that the affidavits are both credible and were neither coached nor

anecdotal, as characterized unofficially by NIOSH, but never in writing to the petitioners [Name Redacted] and [Name Redacted]. [Name Redacted] and SINuW pro bono attorney [Name Redacted]* strongly protested characterization of Dow affidavits as being coached or anecdotal. This was done in writing to the Advisory Board Chair and to Dr. Wade as the Designated Federal Official. The Illinois delegation agrees. Dow Midland documents received 4/27/07 -- and this is probably the most important thing I can say to you today, and I'll show you in the slide -- upcoming Powerpoint slide presentation that those documents that we got late on 4/27 prove that Dow Madison provided centered magnesium, slide number one, and magnesium/thorium allow, slide number two, to Mallinckrodt Chemical Works uranium divisions for their operations, and to the AEC, and I will show those slides in a short period. In addition, there is a Pangea Group May 25th -- I'm sorry, June, 2005 thorium inventory, slides three and four, that shows widespread residual thorium metal throughout former Dow plant buildings complex. Remember,

the FUSRAP report and the uranium cleanup was restricted to building six. This report was generated as Dow Madison is commissioning its current thorium license, Illinois 01750, with the Illinois Emergency Management Agency. Finally, my fifth point is that there has been extreme harm to the workers, including beryllium exposure at the Dow Madison plant. Dow reports such as that by Silverstein* in 1957 and the 1960 AEC inspection report, which we have not gotten but as reported in the evaluation report, suggest that the mouse -- Madison site had an active, well-honed radiation safety program. Nothing could be farther from the truth as revealed by extensive worker affidavits and meeting transcripts, including the NIOSH outreach meeting held in Collinsville, Illinois on 8/22/06. This was a session where workers passed the microphone down the rows and gave their testimony freely. The risk of handling uranium, and especially thorium and beryllium, were downplayed to the Dow Madison workers, and even to supervisors, by the plant management. There were numerous magnesium and numerous thorium-related fires

and explosions, and worker injuries and even deaths. OSHA was called in for many of these incidents, and I'm sure will have appropriate reports. There were periodic special metal or what's called PE, metal extrusion and rolling mill runs -- and I should note that photo engraving plates were a major Dow product -- where workers asked but were not told the true nature of the metal they were working with. They guessed it was some sort of thorium compound based on the telltale behavior of the ingots in the heated extrusion process. There is, as Stuart mentioned, no individual dosimetry data for Dow that's been produced by -- by DOE or NIOSH. We've checked with Landauer, and Dow Midland could not provide any. The workers indicate that badges were, as they put it, cosmetic, being worn for certain inspections and then discarded without, according to the workers, being read. None of the workers ever had any feedback about any dosimetry to themselves. Badge use was rare before 1986. The workplace at Dow was dirty, with high amounts of thorium-rich fumes and smoke from the pot room that spilled over to

other buildings and even led to plant shut-downs, the smoke was so bad at times. The workers handled large quantities of pure thorium and beryllium metal as alloy components from the 1950s through part of the 1990s. And very recently a worker wrote me and said that at least 20 pounds of beryllium were added to most all aluminum alloy runs, and those aluminum alloy runs continue today. [Name Redacted] at the University of Iowa is studying at least ten former Dow workers for respiratory illnesses to rule out chronic beryllium lung disease and/or pulmonary disease, especially fibrosis, that are related to thorium exposure that is apart from malignancy. The Dow plant produced lacalloy*, which is a beryllium/aluminum metal, starting in 1963. Besides the FUSRAP uranium cleanup in 1998 in building six, the affidavits and meeting transcripts record many private cleanups at the Madison site, and workers were involved in those private cleanups and got episodic high exposures during those cleanups. Two major cleanups were ones in 1993 when ERG of Albuquerque, New Mexico removed more than 850

railcars of magnesium/thorium sludge off-site to Utah. And a second private cleanup includes the current Pangea thorium license decommissioning cleanup that is ongoing.

Now if we can turn to the slides, let's see if we can get them going forward here. Let's see -- can somebody help me?

(Pause)

Okay. Now I -- the first slide I want you all to please look at, and you'll have to look at these on the screen, unfortunately -- oh, no. For some reason this Powerpoint won't display pictures, and that's going to be -- so what I -- can somebody help me with this projector, please? I have a PDF file which will show these with the pictures. I can't imagine that problem, but you must see the pictures, so -- so what I need is to get out of this...

(Pause)

All right. Sorry for the interruption. Now if I can get you to please turn to the slides, I -- I can just -- I can just -- can -- can you -- can you change these like this? Okay, that'll be good.

(Pause)

So I want to turn -- this is probably the most important slide on the screen. The Department of Energy has two major databases that are available to characterize EEOICPA sites. One is the considered sites database, and this is the database that contains all of the administrative record documents, for instance, on cleanup, the FUSRAP reports. But the other database, the Bible, if you will, is the facility list, Department of Energy, EEOICPA, and the listing in that database for the Madison site includes this facility description today, that's the point.

Facility description. The Dow facility in Madison, Illinois supplied the AEC with materials, chemicals, induction heating equipment and metal magnesium metal products and services. So I -- I must stress, Dow facility in Madison supplied the AEC with metal magnesium metal products. Dow received a purchase order from the Mallinckrodt in March, 1960 -- well, that's an error right there because the uranium work was done between '57 and '60, so this date is wrong, but that's relatively minor -- for research and

development on the extrusion of uranium metal and rod. Note this description does not include anything about the thorium AEC work which I'm going to show you in the next few slides.

(Pause)

Okay. All right, the next slide is a purchase order, and as you can see, the date is October the 28th, 1957. This is on Mallinckrodt Chemical Works uranium division head. It's -- it's under -- it gives the AEC contract number. It's to the Atomic Energy Commission, and I'll show you the details of it, but it's about magnesium metal.

This is a blow-up of that slide, so Dow Madison was supplying -- oh, and I -- to make sure you saw that. It's -- it's hard to read, but this is -- this is the Dow plant office in Brentwood Boulevard, but it's for the Dow Madison site. And what Dow is supplying to the AEC is cell magnesium. They give the type and here below, some more cell magnesium chipped to a coarse particle size, and there are 100 pounds of each of those.

So that's the proof that Dow supplied magnesium

metal to Mallinckrodt now, and -- but they also supplied magnesium alloy to -- to the AEC. And what I'm going to show you is the magnesium alloy was thorium-containing. So this is the direct link between thorium and the AEC.

Again, this is Dow Chemical that we're talking about in Madison, Illinois. Mallinckrodt Chemical Works uranium division purchase order for the AEC under the AEC contract, and this is the same contract that covered the uranium work. I apologize that I -- you can't see that better here, but the -- the original documents are being submitted in writing to the Board as soon as I finish this presentation, so you'll have them.

Now this is a blow-up of this -- of this second contract purchase order, if you will, and that shows that AEC was being supplied by Dow Madison with magnesium alloy plate. So this is not magnesium metal, this is magnesium alloy plate, and you can see here a number, and I'll show you that a little bit blown up down here. So it says magnesium alloy plate, and then there is a number. And the numbers of alloys are important because there's an ATSM (sic)

standard nomenclature for metal alloys.
And what you ca-- I -- I can't see what this is. I don't know what that is. What I can see here is 21A -- it looks like XA, and that looks like a T, so this doesn't mean anything to me, but the 21A means quite a lot.
Now this is another document, and I should mention that those two documents just shown to you -- I apologize but I want to make sure you see this -- these are documents that were supplied to Robert Stephan, to [Name Redacted]* and to NIOSH and to Stuart Hinnefeld on April the 27th of this year in that big 52-megabyte zip file. And notice that this number at the bottom, TDCC322, that's the Dow Midland document number, so this is a product of that long search that Stuart described.
And this is another document in the same set from Dow Midland, document TDCC318, I believe. It's hard to see from this Powerpoint slide.
Now this is a third document that we got from Dow Midland, and what this is is a table in one of their reports that shows the composition of the various alloys that the magnesium mill produced. And I want to draw your attention to

these three right here in the middle with the red bar, and to the content of those man-- manganese, Mn percent, and Th, or thorium, percent, and that's blown up here at the bottom. And the one of particular interest -- all of these are thorium alloys. H in the standard nomenclature refers to thorium. And I want to draw your attention in particular to thorium/manganese/magnesium alloy 21A. The manganese maximum percent is .45 to 1.1 percent, the thorium percentage as listed here is 1.5 to 2.5 percent, and the source of that, again, was Kirkland and Ellis who are the external counsels for the Dow Chemical Company. I mentioned to you, and I showed this in February to the Board, that there -- the Pangea Group of St. Louis has been cleaning up the Dow Madison site for the last two and a half years, and these are the -- these are just two pages from their June 2005 report showing the thorium inventory throughout many of the buildings at the Dow Madison complex. Building one, four, five, six, seven, eight, nine and the machine shop and building ten. And I would note that this is various forms of thorium metal, and

they're all throughout the plant.
So the summary of this slide session is as follows: The Dow Madison site contracted for uranium work with the AEC via Mallinckrodt Chemical Works during 1957-'60, and the Dow Madison plant supplied the AEC and Mallinckrodt with centered magnesium and magnesium H21A thorium alloy during 1957 and 1958, and the commercial and the AEC thorium waste streams are inseparable in the still-contaminated sites. Therefore, we believe that the Dow SEC should cover 1957 to 8 (sic) throughout the uranium and thorium production and residual periods.
Well, let's just -- let's just leave that up there. I don't know how to turn it off.
So my final concluding remarks are the following: I believe the Dow Madison Section 83.14 class should be extended from 1957 to '60 to 1957 to '98 to cover at least the uranium production and residual contamination periods. Because of the AEC-related thorium work with Mallinckrodt and Rocky Flats, which I hope I've proven to you existed, and given the fact that commercial military and thorium waste streams

cannot be separated, nor can the thorium be separated from the uranium dust during the residual period, we believe the SEC should also include both the uranium and thorium residual contamination period because they're all intermixed. Thorium contamination continues even today. The Dow Madison workers were definitely severely harmed at this site for decades related to their AEC work. They deserve to be honored by extending the SEC class to cover the full period of harm they have been subjected to for -- for decades.

And finally, I'll leave you with just two quotes from sworn affidavit number seven, from two long-time Dow Madison workers. One worker said I worked with the thorium from the first time they run it to the last time when I retired in 1990. I figure -- and the second quote is, from the second worker, I figure the thorium work started in '51 and it ended in about 1998, is when they had the last slabs over in the mill to be processed.

So that's the end of my presentation and I thank you very much. And Dr. Ziemer, I'd like to give you a copy of the -- (off microphone)

(unintelligible).

DR. ZIEMER: Thank you very much, [Name Redacted], and we'll make sure the full script gets both to the Board members and onto the web site.

Next we will hear from Deb -- Deb Detmers, and Deb, as was indicated previously, is a staff member from Representative Shimkus's office, and I think we're also going to read into the record something from Representative Costello?

MS. DETMERS: I -- I am, thank you.

DR. ZIEMER: Yes, thank you.

MS. DETMERS: I'm going to do that first, actually. Congressman Costello sent a letter for the record, and Congressman Costello's our colleague from the metro east area, showing the bipartisan effort of this.

(Reading) I want to thank Chairman Ziemer and the members of the Advisory Board on Radiation and Worker Health for the opportunity to submit testimony regarding the Dow Chemical Company Special Exposure Cohort 00079 petition under evaluation. I strongly support this petition and ask the Board to give it a fair and thorough review.

As you are aware, the National Institute of Occupational Safety and Hazard (sic) submitted an SEC evaluation report on -- report petition on April 13th, 2007. The report addresses atomic weapons employees at the Dow Chemical Company in Madison, Illinois who worked at least 250 days from January 1st, 1957 through December 31st, 1960. This petition is a resource providing critical information in order to bet-- in order to better understand the full extent of the workers' exposure to chemicals and radiation.

It is my understanding that NIOSH has 75 claims within this covered time period, and a total of 116 active Dow cases. While I realize this meeting today is to examine the covered time period, the residual contamination period cannot be ignored. Therefore I urge the Board at some point in the near future to conduct a full examination of Dow Chemical petitions to ensure no employees are wrongly denied workers' compensation. These workers who are exposed to hazardous chemicals and radiation, as well as their beneficiaries, deserve quick action.

Too many workers at Dow have waited years for

help, and they deserve a comprehensive review without further delay. I look forward to working with the Advisory Board on worker compensation issues at Dow Chemical, and will continue to work with my colleagues in the House and the Senate to ensure our nation's atomic workers and their families receive the benefits they deserve.

Jerry Costello, Member of Congress.

You -- you heard from my boss yesterday, he's the one who called in from the airport, so I'm not going to repeat everything he said. And I'm only going to talk very briefly.

I became involved in this six years ago when two men walked into my office, [Name Redacted] and [Name Redacted]. I didn't know anything about this program. I didn't even know what NIOSH was. But I've learned a lot in six years. I know these workers personally. I've been to all of their meetings. I have been to their reunions. I have been to their houses. I've been to their funerals. I have heard the same stories for six years. I've heard the same stories independently for six years. I've heard the stories of thorium for six years.

These affidavits that these men have provided are credible and valid. These men -- even at the workers' meetings, if somebody says something and one of the other guys questions it, they will correct each other. These -- they do not know how to lie. These are not men who know how to lie. They are telling the truth of what happened at that plant.

I don't want the Board to dismiss this because of lack of documentation. No stone's been unturned in trying to get to get to this documentation. [Name Redacted] and I sat at the state EPA and went through tons of dusty documents. We've sat with the federal EPA. We've sat with IEMA, which is the Illinois Emergency Management Association. We've been to the Corps of Engineers library. We've recently gotten -- went through 400 pages of Dow documents. We have FOIA requests that haven't been answered yet. Every effort to get documentation has been made.

I think -- we have the scientific evidence that [Name Redacted] presented. We have very true affidavits from these men. And I urge you today to extend this SEC -- to the residual

contamination period through 1998.
And I want to -- or I urge you that the time is today. The time isn't the next Board meeting. The time isn't down the line. The time I think to do this is today. Thank you.

DR. ZIEMER: Thank you very much. Then we'll hear from Robert Stephan, who's from Senator Obama's office.

MR. STEPHAN: Thank you, Dr. Ziemer. First I have a statement from Senator Durbin's office that I would like to read into the record, if that's okay.

DR. ZIEMER: Yes.

MR. STEPHAN: It's addressed to you. It says (reading) Thank you for your kind consideration of this matter before the Advisory Board on Radiation and Worker Health in expanding the class to cover workers employed during the residual period, through 1998. I have met with the workers who provided the affidavits, and have listened to their stories. Especially in this case where there is little documentation to challenge their accounts, I hope you will give the affidavits provided their full consideration.

In addition, I'm hoping for a prompt resolution of this matter and these workers' claims. The SEC process has been pending for months, and due to the health and age of many of the workers, it is imperative that the Board promptly consider the merits of the case. Thank you for permitting me to raise these issues, and for your service on this Board. Sincerely, United States Senator Dick Durbin. Dr. Ziemer, I just want to go into a little bit more detail in terms of how the Senator views this. You know, he called in the other day, but he just wants to kind of summarize this down to how he sees this. Okay? And hopefully -- I want to make it an assumption here, I supposed, but hopefully the 83.14 is going to be approved, so we're kind of focusing in on this residual period here. And I do want to give credit where credit is due to NIOSH. Certainly our office has been very tough on NIOSH at times, Larry and Stu and everybody else can attest to that. But we have to be fair and give credit when it's due, and they have done a good job in recognizing at least the '57 through '60 period, and in working with

us on this issue.
So to -- to square this up as to where we are now, let's -- let's go back to the February meeting that was in Cincinnati, Ohio -- okay? -- and just go through some of those comments there that -- that I think brings us to where we are now and we'll kind of focus this down, at least from the Senator's point of view, and hopefully we can come up with some sort of a resolution.
Obviously the issue is did Dow Madison produce AEC-related -- deal with AEC-related thorium after 1960. Okay. So, and if they -- and if they provided it to Rocky Flats or Mallinckrodt -- mainly Rocky Flats is what we've been talking about -- then that, in and of itself, is pretty good evidence of AEC-related thorium at Dow Madison after 1960. So from the transcripts -- the meeting transcripts of the Advisory Board from February, quoting Larry Elliott, you know, let's be clear that this goes to the covered facility description. The covered facility description, that is DOE and DOL's responsibility to set in place. It is our understanding at NIOSH that the

documentation that has been provided by the DOE, reviewed by DOL and reviewed by our folks, both in the general counsel's office and our technical staff, do not find any linkage of AEC work after the covered period of '57 to '60. We have to go by that unless there's another document produced that indicates otherwise. We are bound by the law and the regulations to only reconstruct the AEC portion of that dose. Then continuing to quote Larry, and we've been talking about these -- these affidavits, so this is NIOSH's position as I understand it, on the record, quoting the February transcripts. We do not question the veracity or the validity of the affidavit comments that have been provided to us. Again, we do not question the veracity of the affidavit testimonies about working on thorium. We understand they worked on thorium. This was a dirty place. It was a dirty operation. We don't quibble about the facts that these folks -- these fine folks were put in harm's way, et cetera, et cetera, et cetera.

So if we're -- according to Larry Elliott still, so if we're going to take up a

discussion about the covered facility description, I think you need to employ in that discussion Department of Energy and Department of Labor. NIOSH has no responsibility or authority in that regard.

So what's the point. The point is, NIOSH has done their job. NIOSH -- NIOSH has done what NIOSH is bound to do. So -- and we -- and we appreciate that. So where do we go from there, and where we go is to the site description that [Name Redacted] went through. We go to the DOE and we say give us documents to show us how you came up with your site description for AEC-related thorium from '57 to '60. You can't just tell us that's what it is. You have to give us something. It's not going to work just saying we're the Department of Energy and this is what it's going to be.

So what did they give us. They gave us a FUSRAP report. The FUSRAP report references itself. There's nothing in the FUSRAP report that shows why they say that. So where does that take us? Well, that takes us down -- after all of this, after all NIOSH's work, after all the work that [Name Redacted] and

SINuW and two Congressmen and two Senator's office and all of your work, where we are today is a he said/she said -- a he said/she said between the Department of Energy and -- unless I'm missing something, and I don't think that -- that we are, after Stu's presentation -- a he said/she said between the Department of Energy and, to a lesser extent, the Department of Labor and 11 affidavits from the workers, that NIOSH does not question, that say thorium was shipped to Rocky Flats. One of those workers worked in shipping and attested the fact that he saw the shipping manifest to -- sending thorium to Rocky Flats beyond 1960. So -- and that -- and that's what [Name Redacted] showed you.

So that's where we are, and I just want to make sure that -- for the record, I think you all understand this perfectly, but for the record, that's what this is about. This is a he said/she said between the Department of Energy and at least 11 workers from Dow Madison and this -- in the Senator's view and this is why he wanted me to make this point -- this is a critical moment in the history of this Board.

Do we take the statements of workers over statements of -- from the Department of Energy that cannot be backed up by documents.

Now it has been said that the workers' testimony cannot be backed up by documents. The Department of Energy testimony can't be backed up by documents. They have a report that they wrote that -- FUSRAP, the FUSRAP report, that USACE wrote that -- that references itself, so they don't have a document, either. So in this -- in this whole dialogue of not having documents, they don't have any documents, so that doesn't count. The FUSRAP report doesn't count. So what are we going to do, is the question. What is the Board going to do? You can cover the residual period. Are we going to take worker testimony at face value or are we not going to take worker testimony because the Department of Energy references a document that references itself.

So in the Senator's eyes, that's where we see things today. We really hope, as much as you possibly can, that you will act on this residual issue today and not put it off until

August or -- or September or whenever the next Board meeting is. We -- we really want to move on this today, put this issue to rest. These are 23 additional workers we're talking about, and move on.

So appreciate your time. We appreciate your efforts, Larry and Stu and everyone at NIOSH. I wish Libby White were here today to discuss this issue from the Department of Energy 'cause I presented this to her and so -- you know, I take the Department of Energy's absence to mean that they don't question what I just said about their report, so I just want to make sure that that's in the record. Thank you.

DR. ZIEMER: Thank you, Robert. And I'm -- I'm going to ask if there are any other petitioners or maybe -- maybe you know, [Name Redacted], if -- is there anyone by phone that --

[NAME REDACTED]: I don't believe so. I -- I just had one sentence to add --

DR. ZIEMER: Please.

[NAME REDACTED]: -- and I apologize, but I forgot to say this. But on February the 23rd of this year I wrote Glenn Podonsky* at DOE a very detailed letter about just this issue of

the facility description and the error that's on the -- that I just showed to you in the Powerpoint slide presentation. I have gotten back a -- what I would characterize as a partial answer, but really that missed the entire point of the thorium connection that they themselves note on the facilities list. So just to make it complete, I really think we've tried to do what the Board admonished us to do, what Larry Elliott asked us to do. We've sought the guidance from the proper agencies. I sent copies of that letter to NIOSH. I've talked to Peter Turcic repeatedly about the facility description and he says go back to DOE. So we've really done that. We've tried in good faith to do what we can do, and I think Robert's right. He's describing -- that's where we are today.

DR. ZIEMER: Thank you, and I'll just double-check. Are there -- is anyone by phone -- petitioners by phone representing Dow?

UNIDENTIFIED: (Unintelligible)

DR. ZIEMER: Representing Dow?

UNIDENTIFIED: Yes.

DR. ZIEMER: Could you speak up and give us

your name again?

[Name Redacted]: My name is [Name Redacted].

DR. ZIEMER: Okay, [Name Redacted], right. Did you have some comments, [Name Redacted]?

[Name Redacted]: Yes, we have (unintelligible) more information, you know, than what they gave, but the whole thing is is a lot of it was kept from the (unintelligible) of the workers down there and they -- we didn't really know what -- what we were running in that, but the uranium, they were running uranium down there in '75 on (unintelligible) and they ran uranium (unintelligible) straightening the rods (unintelligible) put over in the (unintelligible) in the rolling mill and it was up in the (unintelligible) and safety (unintelligible) area -- era when they were doing that. And the (unintelligible) of that plant had thorium work done in it or stored in it in that, from the (unintelligible) office where they (unintelligible) all the metal to -- all the way through to the finished part when they shipped it out. But (unintelligible) since we've started on this (unintelligible) about six years ago now, we've got over 40

people that's died of cancer and they hold out (unintelligible) longer, we'll all be dead. You know, that's the whole thing in a nutshell. If you've got any questions for me, I'll be more than happy to (unintelligible) answer them.

DR. ZIEMER: Okay. Thank you very much, [Name Redacted].

Now Board members, this -- this petition is open for discussion. There -- there appears to be actually two issues. We -- we have the evaluation report to react to or to act on. There is, in a sense, an additional request, which is the issue of extending the covered period.

Now I think it's important and we need -- and there may be great sympathy toward that. I think there also is a legal issue and I need to have some definition, perhaps. I don't know if legal counsel can tell us. My understanding is that the -- the definitions of those are -- are not the prerogative of this Board; they are established by Labor. Is that correct, or -- maybe somebody could clarify that. I -- I want to clarify what authority this Board has on the

issue of defining those periods.

MS. HOMOKI-TITUS: If you're talking about what periods are covered -- is that what you're asking?

DR. ZIEMER: The cov-- the covered periods --

MS. HOMOKI-TITUS: Are defined by the Department of Labor and the Department of Energy. They are not the prerogative of this Board or of Health and Human Services.

DR. ZIEMER: So that if the Board -- the only thing the Board could do at that -- at this point would be, for example, to express an opinion to perhaps the Secretary of Health and Human Services to -- an opinion to convey something to those agencies.

MS. HOMOKI-TITUS: Right, they -- the Advisory Board --

DR. ZIEMER: But we do not have the authority to change --

MS. HOMOKI-TITUS: No, you do not have the authority to change it. The Advisory Board could provide a recommendation to the Health and -- the Secretary of Health and Human Services to contact the Department of Energy and the Department of Labor regarding whatever

opinion you want to provide.

DR. ZIEMER: So – and [Name Redacted], you -- you have a comment on that, too.

[NAME REDACTED]: That really avoids the issue. What -- what we are saying, and we back this up by numerous statements, including [Name Redacted] opinion reading the Act, that there is nothing in EEOICPA, nothing, no wording, that forbids an SEC to cover the residual period. Now that's a flat statement, so I would think that what we need an -- a legal opinion on is is that statement correct or not. I don't think we are impeded -- I don't think you're impeded from covering the residual period.

DR. ZIEMER: Okay.

[NAME REDACTED]: If you believe that the things that I said were true, that that was AEC work -- intermixed AEC uranium and AEC thorium, that it originated in 1957 to '60 period and extended on up into the future.

DR. ZIEMER: I think one of the practical outcomes, though, is that whatever this Board recommends goes to the Secretary and the Secretary probably gets back to that

definition. So we -- we have to work within those boundaries, but I'm -- I'm trying to assess this myself. Thank you -- please.

MR. STEPHAN: Ju-- just as an aside here, we have to say for the record, it is insulting to the workers, it is insulting to you, it is insulting to us. The Department of Labor and the Department of Energy have known for months upon months upon months that we were going to discuss this today, and now no one is here except for possibly legal counsel -- your legal counsel for HHS. So it's just -- it's ridiculous that they left, absolutely ridiculous that they left and now no one is here to engage in this conversation when they knew all along how important this was to us.

DR. ZIEMER: Okay. Thank you, Robert. Lew, could you add to this?

DR. WADE: Well, let me try to deal with [Name Redacted]'s question. And again, if I'm wrong, please jump up and correct me, counsel or Larry. I think that NIOSH had the ability to include the residual contamination period in its definition, but NIOSH is saying that if you refer back to the 2005 Defense Authorization

Act, as amended, that the only radioactive material that we could consider in that judgment was the DOE or the AEC work. And we have determined that we feel we can reconstruct dose for the uranium, and that's what we start from.

DR. ZIEMER: And Stu?

MR. HINNEFELD: Right, we proceeded with this with the understanding that the extrusion of the uranium and the straightening of the uranium was the AEC work that caused this site to be on the list. And you know, we don't -- we have not been a party or part of the selection -- you know, identification of Atomic Weapons Employers or what thought process or -- or procedure or whatever was employed in the selection of these sites from the outset. And so our -- our understanding was that it was the uranium work that was done that made this, you know, a site, that put it on the -- and so we proceeded along that, that that was the AEC work and that the thorium that was used in their commercial products was commercial work. I mean that's how we proceeded on this.

DR. ZIEMER: Right, but it -- it seems pretty

clear that there was thorium work going on in the early days --

MR. HINNEFELD: Yes.

DR. ZIEMER: -- with the AEC. Do we --

MR. HINNEFELD: Yes, usually --

DR. ZIEMER: -- do we have anything that establishes that uranium only was the basis or not? In other words, can one make the assumption that both uranium and thorium work were going on as part of the covered period and therefore carries forward?

MR. HINNEFELD: I -- I don't -- I don't know. I mean we didn't -- like I said, we didn't participate in the identification of -- of AWE sites and AWE lists, and so we're not really cognizant of the process of what was the thought process that put these sites on this list out of, you know, various companies --

DR. WADE: But -- but more than the thought process, who has the responsibility for making the definitions and what are the definitions that we're operating to?

MR. HINNEFELD: The Department of Energy is responsible for designating the sites that are -- that are AWE sites. Isn't that right?

DR. WADE: Correct.
MR. HINNEFELD: So they are the ones who make that designation.
DR. WADE: And what is their designation relative to Dow Madison?
MR. HINNEFELD: They describe, you know, what -- what -- I think [Name Redacted] even commented, you know, they describe they did these things. During the time they extruded uranium, they straightened rods, they sold other things, sometimes to the AEC. So that's -- that's what they said in their description.
DR. WADE: But the covered period for this facility is what?
MR. HINNEFELD: 1957 to 1960.
DR. WADE: And within that covered period, what is the definition of the work that was the AEC work?
MR. HINNEFELD: I don't know that the definition exists anywhere. I mean there's a description of -- of what was done during that period, but I don't know that it goes specifically -- it doesn't specifically say and this site is on the list because of something, so...

DR. ZIEMER: Yeah, I -- it appears that it's been established that both were going on. I think [Name Redacted] has established that.

[NAME REDACTED]: Can -- can I have -- just -- I'll try to clarify this --

DR. ZIEMER: Yes, please do.

[NAME REDACTED]: -- 'cause I've wrestled with this and I -- I want to offer a simple explanation. What I've shown you is additional purchase orders to the purchase orders that the Department of Energy has included in all of the documents about this site as being evidence that Dow Madison did AEC uranium work for Mallinckrodt Chemical Company. I'm saying in that same series of purchase orders we got from -- from Dow Midland, the current company, more documents, more purchase orders that showed that some of the thorium -- some thorium/magnesium alloy work was done for the AEC and Mallinckrodt. So I think the problem here is either that the Department of Energy never got those thorium-related purchase orders, or they're not producing them, or they're lost, or something. But I must say, you know, Dow responded in 2007 to these

requests. The program started in 2001. And before -- and to be honest about what's happened here, I don't believe anybody, including the Department of Energy, has thought about approaching Dow Midland until we brought it up and initiated those discussions in 2006. And so what I'm saying is I think, on the other hand, the Department of Energy clearly knew about these documents because they have on their facilities list that Dow supplied magnesium alloy. Now this is the simplifying explanation. Everybody who's in the metallurgy industry -- everybody -- knows about ATSM (sic) alloy designations. They know about the standard nomenclature of alloys. They know about Hm* and Hk* and all that. That would be immediate; that's a code word to them, thorium. However, when Debbie Detmers and I, for instance, went to the Illinois EPA and we looked up the air pollution permits for the Madison company that -- Dow Madison, we found that their air pollution permit said that what they did at that plant was that they were secondary magnesium and aluminum smelters. Well, it's true that the va-- the -- the bulk

of the alloy is either magnesium or aluminum. But what is omitted from the DOE facilities list and what was omitted from those Illinois EPA air pollution permits is that it wasn't pure magnesium, it wasn't pure aluminum. They were alloyed with things, and one of the things for which Dow was known countrywide was thorium/magnesium alloys. They made it in Bayside; they made it in Midland, Michigan; they made it in Texas City, Texas; and Dow Midland at the same time had a plant out in Walnut Creek, which is an EEOICPA covered site that processed thorium ores for the AEC. So they were doing a lot of thorium work and -- and Dow thorium at least Walnut Creek was AEC-related. So I believe it's a nomenclature matter. I think that whoever wrote that federal facilities description, had they known anything much about metals, metallurgy, alloys, alloy nomenclature, that instead of saying metal magnesium metal products, they would have said metal -- they -- they -- what they should have said is magnesium and magnesium/thori-- thorium alloys for the AEC. I mean the -- clearly those purchase orders were AEC purchase

orders. They were not merely commercial. Now it's also true that everybody now knows, you know, that magnesium/thorium alloys were particularly useful in the aircraft industry, in fighter planes, in rockets, in the space shuttle, in intercontinental ballistic missiles and -- and Dow provided thousands of tons of magnesium/thorium alloys for that point. So I think it's just a matter of somebody doing a -- a good job. What -- what can be faulted, however, I think is what Robert's alluding to, is we have brought that to the attention of the Department of Energy. Now maybe we need to bring it a little more forcefully with a little more evidence, and certainly what the Department of Energy has not seen are these purchase orders that I showed you on the screen from Dow Midland. And we -- we -- well, they need to look at those. But I -- I find it very hard to believe that they would obtain the purchase orders that relate to uranium but not the purchase orders that relate to thorium.

DR. WADE: But could -- could I ask you a question, just to --

[NAME REDACTED]: Sure.

DR. WADE: -- clarify this for the--
[NAME REDACTED]: Sure.
DR. WADE: Because we need to chart a course forward.
[NAME REDACTED]: Right.
DR. WADE: The facility description that you put in front of us --
[NAME REDACTED]: Uh-huh.
DR. WADE: -- that facility description needs to be modified --
[NAME REDACTED]: Yes, sir.
DR. WADE: -- you -- you propose.
[NAME REDACTED]: Yes, sir.
DR. WADE: If it's modified, then NIOSH can start with that modified facility description and move forward, so that's the -- the core issue that we're looking at here. Correct?
[NAME REDACTED]: I believe that's the core issue. The -- the exception that I would take to what you just said is I'm not sure -- if the Board accepts the evidence that I have shown them, then I don't see why the Board can't act on that evidence.
DR. WADE: I understand what you're saying. You're -- you're proposing that the Board could

supersede this facility description based upon the evidence you've provided.

[NAME REDACTED]: Right. If I was just saying this from my belief, that would be one thing. If I've shown it to you on the board and --

DR. WADE: From my point of view, you've made a very compelling argument.

[NAME REDACTED]: Right.

DR. WADE: The question is, what is the authority of the Board --

[NAME REDACTED]: Right.

DR. WADE: -- and that's something the Board needs to discuss.

DR. ZIEMER: Well, let me ask, is this description -- this is not an official description that is used for the EEOICPA program, is it?

[NAME REDACTED]: Yes, it is, absolutely --

DR. ZIEMER: This is the one --

[NAME REDACTED]: -- that is your --

DR. ZIEMER: That's the one.

[NAME REDACTED]: -- that is your King James --

DR. ZIEMER: That's the one you're --

[NAME REDACTED]: -- Bible.

DR. ZIEMER: -- using, Stu?

[NAME REDACTED]: That is your King James Bible.

MR. HINNEFELD: We refer to that web site, the facilities list web site on, you know, questions like this. It occurs to me as we sit here that --

DR. ZIEMER: Well --

MR. HINNEFELD: -- the sites were published in a *Federal Register* notice and there may be additional words in the *Federal Register* notice --

DR. ZIEMER: Well, we probably --

MR. HINNEFELD: -- but I don't know whether there are or not.

DR. ZIEMER: -- need to check that. I -- I -- I guess as I look at this, I think the door is open. Here in this description it already says metal magnesium products, and that term is pretty broad. It seems to me one could interpret that broadly. I'm wondering if NIOSH could not even interpret that broadly. Mayb-- we might have to get counsel's recommendation on that, but it seems to -- it seems to me that there's a foot in the door right there.

MR. ELLIOTT: I'm sure we'd have to seek

counsel's advice on that. I want to add to what Stu just said in response to your question, that as we encounter these situations where we have questions about what the site or facility designation means for covered exposure, we are obligated to talk and get coordinated with DOE or DOL on that particular issue, and we've done that with Dow. And -- and what we hear back from them, DOE, is that they are basing their designation on the contracts that were engaged with this AWE, and they say those contracts do not show them -- only show to them that uranium is the issue --

DR. ZIEMER: Uh-huh.

MR. ELLIOTT: -- is the AEC work. Now I'm not saying I agree with that. I'm just saying that's what bounds us to only move forward and work on uranium outside of that covered period.

DR. ZIEMER: So in -- in a sense, it appears that we're awaiting some additional response -- I know -- I've seen copies of [Name Redacted] letters to Glenn Podonsky and a kind of preliminary response that sort of said we're looking into it, or something to that effect. So I don't think that DOE has closed the door,

but it certainly will make a big difference if we can have them aboard officially on this. It's -- it's not obvious to me that they are denying that the thorium work took place. I think it has come to them probably as new information, as well, was my impression. Is that your impression, too, [Name Redacted], that --

DR. WADE: We're going to try --

[NAME REDACTED]: You know, I --

DR. WADE: -- to get DOE on the phone.

[NAME REDACTED]: -- I would be happy to agree with that, except where did they get the language of metal magnesium --

DR. ZIEMER: Well -- well --

[NAME REDACTED]: -- they're --

DR. ZIEMER: -- exactly, and that's what I'm saying, it --

[NAME REDACTED]: What I'm trying --

DR. ZIEMER: -- sort of leaves the door open anyway, it seems to me.

[NAME REDACTED]: Here -- here's the key thing that I'm trying to say. I -- I actually have -- I mean all I have is a copy from an electronic file sent by Dow Madi-- Dow Midland,

but it is -- it -- it names the AEC contract as being the same contract, that same ENG* contract that Mallinckrodt had for uranium.

DR. ZIEMER: Right.

[NAME REDACTED]: So --

DR. ZIEMER: Yeah, I --

[NAME REDACTED]: -- all I can say is Department of Energy missed something. Now why, how, when -- I don't know, but you know, February 23rd is a long time --

DR. ZIEMER: I understand.

[NAME REDACTED]: -- and that's why we hope -- we hope that what you can do is say look, we have seen a thorium contract between Dow Midland and Mallinckrodt, the AEC, and that's sufficient to move forward and believe -- and believe this. Yes, it would be wonderful if we could get a confirmation from DOE, but I don't know how to do that today. I -- I don't think it's practical.

DR. ZIEMER: Well, yeah, we're -- thank you, that's very helpful. I -- I think we'll get some additional comments here and then we can figure out a path forward from this point. I think Wanda and then Jim, then Jim. Okay.

MS. MUNN: A couple of clarifying questions. Was the SEC petition -- do we have an SEC petition that covers this extended period?

MR. HINNEFELD: No, the SEC petition was the one that we -- it's an 83.14, so we said we can't reconstruct the dose and we were, you know, working with the belief, you know, the covered -- the covered period '57 to '60, so you know, we essentially initiated -- we don't have an 83.13 petition that asks for it -- you know, the residual inclusion.

MS. MUNN: So are we not correct in assuming that, in the absence of a petition, the only avenue that's being asked of us today is to extend the existing petition. That's the request --

DR. ZIEMER: Well, the existing period.

MR. HINNEFELD: Yeah, the request --

MS. MUNN: I mean the existing period.

MR. HINNEFELD: The request would be that our evaluation of in-- you know, inability -- infeasibility of doing dose reconstruction should be extended into the -- into the residual contamination per-- I mean that's the request that's being made.

MS. MUNN: I -- I guess from a simply process point of view, it would seem much more straightforward if we had an SEC petition that covered that residual period. It would -- it would --

DR. ZIEMER: Well, this -- this can be done in a two-step process, but the issue will remain, one way or the other, to -- to address because there certainly can be claimants coming forward from that period, so -- Dr. Melius.

DR. MELIUS: Yeah, I think just to follow up on Wanda's question, I think -- we have -- there's actually precedent in -- on this Board for changing the period, the coverage period in relationship to an evaluation report that's given to us and changing -- both within NIOSH and within the Board for changing that from what was in the original petition. So I don't think that's problematic. I -- I do think it's a bit more problematic the fact that we don't have any evaluation be-- of -- of feasibility of doing dose -- individual dose reconstruction in front of us, at least from NIOSH, for -- other than for the time period that they -- they addressed in -- in the -- based on the

original 83.14 petition. So whether or not they -- it's possible -- feasible to do dose reconstruction before or after, I'm not -- is not clear to -- or should say after for either uranium or thorium, it's not clear to me.

DR. ZIEMER: Yeah, LaVon, can you --

MR. RUTHERFORD: Actually that's not correct. We've provided sample dose reconstructions for the residual period addressing only the uranium.

DR. MELIUS: Only the -- so -- so just -- it's just --

MR. RUTHERFORD: Yes, but --

DR. MELIUS: -- thorium.

MR. RUTHERFORD: -- we did address the uranium, which we -- as Stu had mentioned, assumed was the only AEC covered.

DR. MELIUS: Okay.

MR. RUTHERFORD: But not thorium.

MR. HINNEFELD: But to your point, there has not been an evaluation of the feasibility after the -- in the residual period, that's true.

DR. MELIUS: Yeah, I mean I -- I would expect that uranium would still -- yeah, I would expect that uranium would still be feasible. I

think the thorium is the -- one more question. I also have a pro-- procedural question --

DR. ZIEMER: Okay.

DR. MELIUS: -- is that say if we took the step of moving forward and have the Board extending the -- the time period of -- of coverage as has been suggested, you know, what -- what then happens? I suspect that DOL then would not be willing to certify people in that class beyond that point. Don't they refer to the DOE definition in term-- of the site and the time period of coverage in terms of how they handle these?

MR. ELLIOTT: Yes, that is correct --

DR. MELIUS: Yeah.

MR. ELLIOTT: -- but it may start sooner than that. I don't know if our Secretary would -- would say that -- well, I can make this designation based upon the Board's recommendation, given OGC's interpretation of the amendment language.

DR. WADE: That's where we -- that's where the issue would first ra-- if the Board was to decide to include the residual contamination period because of the inability to reconstruct

thorium dose --

DR. MELIUS: Uh-huh.

DR. WADE: -- then the Secretary of HHS would have to evaluate whether or not that was within his authorities, given the -- the time period that's been covered and the facility designation.

DR. ZIEMER: But in reality, as far as NIOSH is concerned in that extended period, the problem then would be the same on reconstructing thorium. You would not be able to.

MR. HINNEFELD: Well, we -- we didn't try to --

DR. ZIEMER: All right, so (unintelligible) --

MR. HINNEFELD: -- demonstrate feasibility, so we haven't really tried, so today we wouldn't -- we wouldn't have that data.

DR. ZIEMER: You -- okay.

MR. HINNEFELD: Now whether it's -- you know, there may be avenues that we didn't pursue since we were interested in '57 to '60, but I don't -- I don't know if there would be or not.

DR. ZIEMER: Yeah, you haven't actually looked at the issue.

Dr. Lockey.

DR. LOCKEY: I wanted to -- I wanted to ask you

a question.
What I'm hearing you say is that it's your thought, based on the affidavits, that after 1960 thorium alloy production persisted at this facility. Is that correct?
[NAME REDACTED]: No question about that.
DR. LOCKEY: And how long -- how long did it go on? Do you have any --
[NAME REDACTED]: It goes on at least till 1998, and there's some evidence from the workers -- for example, they say that the PE, the photoengraving work -- as you heard, some workers say the thorium runs persisted even after 1998, but well into the '90s, for sure. And I'm talking about production work now.
DR. LOCKEY: Okay. And then that production was on behalf of AEC or non-AEC?
[NAME REDACTED]: Not that we -- no, the only -- the only proof that we have of AEC thorium work was in the covered period, the 1957 to '60.
DR. ZIEMER: Okay.
[NAME REDACTED]: And -- and all the subsequent work that I'm aware of was done for mili-- 95 percent of it was military contractors.

DR. LOCKEY: Okay. Thank you.
[NAME REDACTED]: DoD-type contractors, right.
DR. LOCKEY: Thank you.
DR. ZIEMER: Okay. Robert.
MR. STEPHAN: Dr. Lockey, can I put into perspective here that on this Dow search -- document search that we've -- all went round and round on for months now, NIOSH asked Dow for documents under a certain set of criter-- for their criteria. The Senator's office asked Dow for documents under a -- a different set of criteria. Dow sent to us last Friday night at midnight 400 documents from Dow Madison, no documents from Rocky Flats, despite -- now not on Dow, but despite that they had -- their general counsel had told us they had thousands of boxes related to Rocky Flats. The question here is about thorium from Dow Madison to Rocky Flats. Dow Madison did a document search. They only sent us documents from Dow Madison, despite telling us they had documents from Rocky Flats. So it's important to keep that in mind, I think.
DR. ZIEMER: Okay. Thank you. Additional comments or questions?

DR. WADE: Could I just sort of summarize three issues? The first issue is you have a report from NIOSH in front of you that says grant the SEC during the covered period, based upon the inability to reconstruct thorium dose. Even though thorium was part of a commercial operation, that dose can be considered during the covered period.

What's not stated in the recommendation that the Board can comment on is NIOSH claims it can reconstruct the uranium dose during the -- the residual period. That's an issue that's legitimate for the Board to consider and evaluate.

And then the 700-pound gorilla is whether or not thorium work was AEC work. Now that's an issue that the Board can approach in a variety of ways, none of them directly, in my opinion. So I think those are the three things that you have.

DR. ZIEMER: Other comments? Wanda Munn.

MS. MUNN: One question. Is -- is it possible for us to get to the FUSRAP report personally? Is that on line anywhere?

DR. ZIEMER: Certainly those are public

reports. I'm not sure how helpful it will be --

MR. HINNEFELD: You're talking about the FUSRAP survey report?

MS. MUNN: Yeah, I just wanted to have an opportunity to see for myself the --

MR. HINNEFELD: It's --

MS. MUNN: -- referencing itself time and time again.

MR. HINNEFELD: It's on the O drive.

MS. MUNN: It's -- okay.

MR. HINNEFELD: It's in the document review -- and there's a Dow folder --

MS. MUNN: Okay, if it's on --

MR. HINNEFELD: -- and it would be SE-- it's in the references for the evaluation report.

MS. MUNN: Fine, thanks.

DR. ZIEMER: Another comment?

DR. WADE: Yes, I'll say it on the record rather than trying to whisper it. At the last meeting the Board did ask SC&A to become familiar with the Dow SEC petition in anticipation of some downstream work. So I mean it's possible John Mauro might have a comment to make.

DR. ZIEMER: Well, I -- John, this may be too early, but go -- if you have comments at this time or any input on -- from SC&A.

DR. MAURO: Yes, I could give you a summary of what we -- we were given the direction by the Board to perform a focused review and -- and we did. We reviewed all the documents that were in the folder, of course the evaluation report, the petition. The team consisted of myself, a metallurgist with expertise in just this very subject, and a radiochemist with expertise in air sampling of thorium. And in fact we put together a working draft, I'm holding it in my hand, and -- to look at the issues as we've been discussing. None of -- none of these legal issues, but just simply the radiation protection, health physics, dose reconstruction issues. And we have come to certain observations in -- that we -- I'd be glad to offer. And of course, if so requested, we could deliver to you our written report. But this maybe constitutes a status report of what we found out to date.

We have not looked at the 700 pages that showed up on Saturday, so that's -- so -- we looked at

everything else before that.
Bottom line. Uranium, the dose reconstruction during the covered period, '57 through '60, there is -- we agree with NIOSH that exposures to workers who were exposed to the uranium during the covered period while it was being rolled, extruded, is something that there is adequate information to perform dose reconstruction.
The residual uranium post, we believe that there is adequate information to reconstruct doses to the uranium.
Now to move on to thorium, which we also looked at, is there sufficient information to reconstruct thorium exposures during the covered period. From what -- from the data that we reviewed, and we looked very carefully at this, we -- we believe we have a pretty good understanding of the alloying process that took place. It was -- the best way to describe it is it was a dangerous operation because you're working with molten magnesium, and there were explosions and fires that occurred, and air samples were taken at the time -- there were air samples, and we reviewed that data. Bottom

line is that there was -- un-- under most occasions, they did not detect the presence of any thorium. Apparently there were some short-lived radionuclides that became airborne and that were airborne, but it does not appear that the thorium was becoming readily airborne at high concentrations at -- because they bo-- were below the limits of detection.

So we asked our radiochemist to do the best he can to figure out what the lower limits of detection were at the time, and that was -- and we did the best we can to come to grips with that. And the bottom line is that, depending on what assumptions you make on the type of sample that was collected, the duration of the sample, the volume of air, the counting time, what the lower limit of detection is, so we have a range of numbers but they were all low. That is, we're talking about concentrations on the order of one DAC following -- following these events.

So -- now, that would be thorium that might emer-- come off from a -- an event, an incident. There's also a question regarding other types of activities that took place. Now

here's where we don't have an answer for you. That is, beside those thorium measurements that were taken because of concern that there may have been some thorium becoming airborne during the alloying process and any transients that occurred during the alloying process, apparently there were lots of other activities going on that you may want to refer to as machining thorium or -- or handling in various ways. We do have data regarding various -- various thorium machining operations and in fact we discussed this in the past regarding Rocky Flats. So there is a lot of data related to what the levels of airborne dust loadings are associated with various machining operations.

Now for tho-- now where we don't have information is there may have been certain unique activities associated with the management of the thorium metal, which was certainly there, that was different than the experience that -- that we have in our records -- for example, regarding the machining of -- or uranium and thorium that might be different. So we're at a place right now that's -- that

says that from the information we have before us, the actual measured values, our understanding of the process, it -- it appears that the levels of thorium were not very high. They were below the limits of detection in general. And based on the literature for other operations that were reviewed from various publications where thorium was machined, for example, it appears that there's a way to place a plausible upper bound.

What we don't know is that -- and we don't have an answer to is that there may have been certain types of activities related to the management, handling, machining of thorium, perhaps centering it, that we don't have information. So here's where I guess, to a degree, we're saying there's an unknown here that we did not research in depth, but -- so whether or not -- so -- so in a funny sort of way, we -- right now we can't say whether or not you could place a plausible upper bound on the thorium exposures. We -- we did not do enough research into it. But from the -- the literature that we did look at, it is not immediately apparent that there was a serious

thorium problem, airborne, at the facility during the covered period.

DR. ZIEMER: Okay. Thank you, John. NIOSH has indicated, however, an inability to reconstruct dose from thorium, perhaps because of some of those unknowns that you've identified, so that -- I'm trying to determine whether your bottom line is different -- it sounded like you were saying in general there may not have been serious thorium problems but you can't really pin that down and bound it completely --

DR. MAURO: At this time, that's correct, especially since we haven't looked at the 700 pages that came in on Saturday.

DR. ZIEMER: Yeah. Okay, thank you. [Name Redacted]?

[NAME REDACTED]: I just have one directly relevant thing. One of the issues about extrusion press operation is in some of the other sites that I've read about apparently it was -- it's fairly standard practice for radioactive extrusions -- radioactive metal extrusions to put a vacuum hood around the extrusion press where the metal extrusions come out and to collect it that way so it's

completely important to know whether extrusion presses were or were not hooded, and the ones at Dow Madison were not hooded. And I think that John -- I mean I think that's something that must be clarified, because if you have the vacuum hood on there the dust concentrations are going to be way low compared to the others.

DR. ZIEMER: Thank you. Yeah -- yes, Robert.

MR. STEPHAN: John, just as a follow-up -- Dr. Makhijani, I think you had a conversation with [Name Redacted], one of the Dow workers, but have you been able to speak with any of the other workers of the -- at least of the 11 who testified about the shipments to Rocky Flats? Have you spoken to them about thorium?

DR. MAKHIJANI: (Off microphone) I have (unintelligible).

DR. ZIEMER: Oh, yeah, okay.

DR. MAKHIJANI: Just to clarify, I -- I did not talk to [Name Redacted] about the conditions of the plant. I just talked to him about shipments to Rocky Flats and what he told me is part of our Rocky Flats report, although the interview was not published because of Privacy Act considerations.

DR. ZIEMER: Perhaps [Name Redacted] is still on the line. Are you, [Name Redacted]?

[NAME REDACTED]: Yes.

DR. ZIEMER: Do you have any additional comments on this?

[NAME REDACTED]: Our (unintelligible) in shipping from '92 to -- I mean '62 to '75 is almost all thorium, Hk and Hm, went to like Rocky Flats, Martin Marietta or Lockheed -- there's others, I can't think right now.

DR. ZIEMER: Okay.

[NAME REDACTED]: But every time we put a label on it -- a shipping label, it had Department of Labor in care of, you know, like Rocky Flats, and we shipped a lot of metal to Rocky Flats (unintelligible) --

DR. ZIEMER: Department of Labor, or do you -- did you mean Department of Energy?

[NAME REDACTED]: -- (unintelligible) -- Huh?

DR. ZIEMER: Did you mean the Department of Energy or Department of Labor?

[NAME REDACTED]: Department of Energy.

DR. ZIEMER: Energy, okay, yeah, thank you.

[NAME REDACTED]: It started out as DoD --

MS. MUNN: It would have been AEC.

[NAME REDACTED]: -- and then they went to DOE.
DR. ZIEMER: Right, okay. Thank you.
[NAME REDACTED]: Down there. And then --
MS. MUNN: But it would have been AEC or --
[NAME REDACTED]: -- Rocky Flats or Martin Marietta. Some of it would be (unintelligible) sheets and others would be real heavy (unintelligible), eight and ten inches, you know.
DR. ZIEMER: Yeah. Okay. Thank you, [Name Redacted].
Board members -- okay, com--
UNIDENTIFIED: I'd like to make a comment myself.
DR. ZIEMER: Who is this?
[NAME REDACTED]: This is [Name Redacted]. I'd like to make a comment.
DR. ZIEMER: Yes, [Name Redacted]. Please go ahead.
[NAME REDACTED]: I -- I was a laborer, a painter and a brick layer at Dow Madison plant, and I was at the press when they was pushing the thorium, and some of the thorium, like when it was extruded, would come out and -- terrible (unintelligible), and they couldn't use that so

they stored that in 2 building and that thorium stayed over there -- 2 building, which our paint shop was in 2 building, and it stayed over there for years and years and years and we worked around it, swept around it and everything else and it -- I don't know -- I heard just recently that they got it out of there.

DR. WADE: Thank you.

DR. ZIEMER: Okay. Thank you.

[NAME REDACTED]: And that's my comment.

DR. ZIEMER: Thank you. Wanda Munn?

MS. MUNN: Can we assume that the petitioners have no problem with our parsing this question, because it clearly needs more definition than we have now, and moving forward with the petition that is before us now, with the understanding that we will further pursue an additional or extension of this SEC to cover additional dates for residual contamination.

[NAME REDACTED]: Well, I would like to say that the petitioners have very strong problems with that, and the reason why, Wanda, is that in February when we had the Dow SEC update, we clearly focused our concern on covering the

residual period based on the 11 affidavits which I put on the record then and gave you a Powerpoint and gave you ex-- excerpts from the -- those sworn affidavits that said exactly what you heard from [Name Redacted] right now, that truckloads of thorium went to Rocky Flats. And so we've always contended from the outset that that was a major issue. Robert just read into the record again Larry Elliott's statements that he was well aware that a special aspect of this SEC was coverage of the residual period for the reasons that we stated. We -- we think -- we thought all along that those worker affidavits document that Dow Madison was supplying thorium to the Atomic Energy Commission at Rocky Flats. So now all we're doing today is giving you independent, additional conclusive evidence that some of the thorium work was AEC-related under a contract to the AEC, which we produced for you from Mallinckrodt. So I don't think this is a new issue that we're raising --

DR. ZIEMER: No, I don't think --

MS. MUNN: No, I don't --

DR. ZIEMER: I think that's -- that's correct.

We're trying to find a way forward that will try to address both of these, and -- and one possibility would be to take action on the immediate petition, and then take an additional action, perhaps to ask the Secretary to take what steps are needed within his purview to help move this definition forward in some way. What -- I think what we're trying to avoid is sabotaging the whole thing by providing a recommendation that can't be well implemented, so -- Robert, you have some additional comments on that?

MR. STEPHAN: Dr. Ziemer, can -- can we condense down and maybe, you know, put in a -- I'm not a lawyer and I'm not a scientist. You know, I've heard the questions, but I haven't heard the answer as to why we -- we could not act on this residual period today. I mean I respect what you're charged with in terms of advising the Secretary and what you're -- what you're trying to accomplish and -- and certainly if we he-- if we hear an answer that precludes you --

DR. ZIEMER: Well, our con --

MR. STEPHAN: -- from doing it, but --

DR. ZIEMER: -- our concern --
MR. STEPHAN: -- we haven't heard it.
DR. ZIEMER: Our concern is implementing -- if the Board were to recommend that, the implementation goes back to Department of Labor, and -- and the change has to occur there in order for it to work. My -- the concern I just expressed was I don't want to sabotage the whole thing by having something that won't work that perhaps we can parse it in a way that says let's deal with the immediate petition and then ask the Secretary -- and we can -- we can go on record as indicating the -- the Board's understanding of -- of -- or we could go on record as recommending that this period be extended and ask that the steps be taken so that it opens the way for the -- for it to happen. So I think that's what Wanda was getting at, to parse it out in a -- and we can do both steps here today, I think.
MS. MUNN: Exactly, and the second part of that would be also to further accommodate the process by -- by clarifying the definition from which the original concern -- as to what this facility was, and -- and identifying whether

the word "products" in there adequately covers what we need.

DR. ZIEMER: Yeah, I think -- I think [Name Redacted]'s made a compelling case to the Board for why it should be. Our -- our focus now is how can we accomplish this in a way that meets legal requirements and does not impede the whole thing.

MR. STEPHAN: Dr. Ziemer, just to clarify for [Name Redacted] and [Name Redacted], so on -- on your point, which I -- Deb and [Name Redacted] and I have just been discussing, we -- we think we understand it correctly. We agree, but I want to be careful not to speak for them in case I'm wrong. But [Name Redacted] and [Name Redacted], what -- what we're talking about here is if we lump in the residual period, because [Name Redacted] is not covered under the current -- if we lump in the residual period with the current wording and the Secretary decides that doesn't work, then we lose --

DR. ZIEMER: We lose time, right.

MR. STEPHAN: -- the 47 -- we lose the 47 workers who are going to be covered under the

83.14 and we have to start that process all over again. So we would be comfortable with -- I think what you're moving toward is the 83.14 --

DR. ZIEMER: Well, we're trying to find an expeditious way to --

MR. STEPHAN: -- 83.14 today and I guess what you're saying -- an advisory opinion separately on the residual, we would be comfortable with that.

DR. ZIEMER: -- to see -- to find a way to -- to get that definition changed so that Labor and -- and DOE actually will implement what we want done.

MR. STEPHAN: Right, we -- we agree.

DR. ZIEMER: I'm -- I'm -- I say what we want done. We haven't taken any action yet so I don't want to -- and Liz, if you can add something from counsel here.

MS. HOMOKI-TITUS: I'm not sure I can add something, I just want to clarify that it's not 100 percent correct that just because -- if they were to agree to clump the whole thing together, the Secretary doesn't necessarily have to accept the recommendation of the Board.

The Secretary could still parse it and say I'm adding this portion and not this portion, so it's not necessarily going to completely eliminate the 83.14 portion just because --

DR. ZIEMER: Yeah, it may -- it may set that aside anyway if he doesn't feel that that's in the --

DR. WADE: I think Jim has --

DR. ZIEMER: Yes, Robert.

MR. STEPHAN: Well, in light of that, then -- then our position would change and our position would be let's lump it together, let's put this in Labor's court -- who didn't bother to show up today -- and let -- let's see what we could do. If we're not going to lose the 83.14 and the Secretary can parse that out, then -- then we would encourage the Board to lump it together and see where we go.

DR. ZIEMER: I'm not sure if -- Liz, is that what you were saying?

DR. WADE: I don't think we know that, and I don't think we want to make that judgment.

MS. HOMOKI-TITUS: I can't say what the Secretary would do. I'm just telling you legally what his options would be.

DR. WADE: Right.

MS. HOMOKI-TITUS: My recommendation would be that you give him the most direct guidance of what you want done.

DR. WADE: Correct.

DR. ZIEMER: Thank you.

DR. WADE: Jim has --

DR. ZIEMER: Jim.

DR. MELIUS: Can I just add -- I think there's another important reason to split this up, and that is the fact that we don't have before us information indicating that for the residual period that this group qualifies technically as an SEC. There's no -- NIOSH --

DR. ZIEMER: We don't have an evaluation report --

DR. MELIUS: -- NIOSH has not examined it, nor has SC&A, as to whether or not it's feasible to do dose reconstruction for that -- that time period. They've already made a ruling on the uranium finding, but they have not -- neither one of them has looked at the thorium issue.

[NAME REDACTED]: I -- I would just like to -- I -- I -- I -- Jim, I -- with Dr. Melius, I certainly agree with what he says, but I would

further add in the strongest possible way that we begged, we implored, we brought this issue up to NIOSH, and in fact I was quite shocked and dismayed when I saw the evaluation report on April the 13th and realized that after all our discussions there was not a more in-depth focused attempt to work out whether dose reconstruction was feasible during the residual period. I thought Larry and I honestly had a bargain about that and that would be forthcoming. And so when I wrote back my concerns about that evaluation report, that was well represented in the list of concerns, why didn't you address this in a more comprehensive way. So given the fact that what we have today, I absolutely agree that residual period feasibility needs to be assessed, but I wish it had been done --

DR. ZIEMER: Yeah, we understand.

[NAME REDACTED]: -- in a more timely way.

DR. ZIEMER: Yeah. Thank you.

DR. MELIUS: And can I just add -- I mean I completely agree with you on that, and I was concerned also and I think to some extent the Board should have tried to follow up more

vigorously to -- to try to address that, but we weren't -- we weren't aware of all that was going on, but -- but despite that, we're still stuck with -- that delay, we're still stuck without the necessary information and to put forward a recommendation that's -- doesn't have adequate justification would just be another, you know, potential avenue to delay this or for the Secretary to send that -- that back and --

DR. ZIEMER: Yes, 'cause the Secretary wouldn't have the full set of tools he requires then.

DR. MELIUS: And -- and I would add, I think, as part of our way of moving forward, that we need to ask NI-- you know, NIOSH to -- in a very timely fashion to address that deficit and -- deficiency and provide us with information. I think we should also ask SC&A to -- in parallel to -- to also get involved in -- and look at that residual period also and the question of dose reconstruction, and I would much prefer that we not have another informal presentation from SC&A, which I found to be extremely confusing and disturbing, but that we -- we actually have a formal report and a formal presentation at our next meeting about

this.

DR. ZIEMER: Thank you. Okay. In -- in order to move things forward, I think it would be appropriate if the Chair now called on -- if anyone wished to make a motion on the report that we have before us, which is the evaluation report on the petition.

Okay, we've got Wanda and Jim both vying for --

MS. MUNN: Well, go ahead, Jim.

DR. MELIUS: Well, my only question -- it's sort of the prerogative of the Board, I have actually prepared a letter which I can read. It's not been copied yet 'cause I've been working on it --

DR. ZIEMER: Please read your letter.

DR. MELIUS: -- during the presentation, so bear with me. If the computer works, we'll -- that deals with this first section and might facilitate us moving forward.

DR. ZIEMER: This is a motion that is actually in the form of our usual motions then.

DR. MELIUS: Yes, yes.

DR. ZIEMER: Thank you.

DR. MELIUS: And I will start reading. The Board recommends that the following letter be

transmitted to the Secretary of Health and Human Services within 21 days so that should the Chair become of any issue which, in his judgment, would preclude the transmittal of this letter within that time period, the Board requests that he promptly informs the Board of the delay and the reasons for this delay, that he immediately works with NIOSH to schedule emergency meeting of the Board to discuss this issue.

The letter. The Advisory Board on Radiation and Worker Health, parentheses, the Board, has evaluated SEC petition 0079 concerning workers at the Madison, Illinois -- let me -- at the Dow Chemical Company Madison, Illinois facility under the statutory requirements established by EEOICPA and incorporated into 42 CFR Section 83.13 and 42 CFR Section 83.14. The Board respectfully recommends a Special Exposure Cohort, parentheses, SEC, close parentheses, be accorded to all AWE employees who were monitored, or should have been monitored, for exposure to thorium radionuclides while working at the Dow Chemical Company Madison site for a number of work days aggregating at least 250

work days during the period from January 1st, 1957 through December 31st, 1960, or in combination with work days within the parameters established for one or more other classes of employees in the SEC. The Board notes that although NIOSH found that they were unable to completely reconstruction radiation doses for these employees, they believe that they are able to reconstruct components of the internal dose, including uranium; external exposures from radi-- all radionuclides except thorium, and occupational medical doses for this class of workers and therefore individuals with non-presumptive cancers may be considered for partial dose reconstructions. This recommendation is based on the following factors:

Number one, people working at the Dow Chemical Company Madison site were involved in various industrial operations involving uranium and thorium. The NIOSH review of the available monitoring data found that there was -- there were not sufficient data available to estimate the internal and external doses from exposure to thorium. Therefore, NIOSH concluded that

individual dose reconstructions are not feasible for working -- for people working in this facility during the time period in question. The Board concurs with this conclusion.

Number three, NIOSH determined that health may have been endangered for workers at the Dow Chemical Company Madison site during the time period in question. The Board concurs with this determination.

Enclosed is supporting documentation from the recent Advisory Board meeting held in Denver, Colorado where this Special Exposure Cohort was discussed. If any of these items are unavailable at this time, they will follow shortly.

DR. ZIEMER: Okay. Is there a second to the motion?

MS. MUNN: (Indicating)

MR. CLAWSON: Second.

DR. ZIEMER: Okay, we've got several seconds. Is there any discussion?

Yes, Mark.

MR. GRIFFON: I just want -- I don't know if Stu is still around, but I -- I think we need

to maybe for the record understand a little more of -- of why -- and I know NIOSH concluded they couldn't reconstruct thorium dose. I just want to know specifically there's -- is it extent of operations -- I -- I want some reasoning -- rationale for why it's -- can't be bounded.

MR. ELLIOTT: Well, he -- Stu did step out, but I'll try to do some justice to this question, and if he steps back in he can -- seek more from him. I believe Stu would say to you that -- that we feel that the thorium process operations were so diverse, they included a lot of different types of processing work and handling the -- the thorium-based materials and the alloys that were -- were created. There were -- there were chemistry proc-- related processes involved. It went beyond just -- just extruding metal or manipulating the metal itself, physically manipulating the metal. The data that we do have for thorium does not give us enough information about the -- the distribution of exposures from these various diverse activities. We can't be sure what type of internal dose could have been acquired in

interacting with the diverse operations. There may be enough that we can look at external dose, but we haven't really, you know, sorted all of that out yet, so add on internal dose to thorium as an issue. But he can elaborate more if you want more.

DR. ZIEMER: Maybe Jim can also step on that then.

DR. NETON: Yeah, I think there's a couple of other areas more specifically that -- that we were looking at. One of those is the -- and John I think did a pretty good job describing how the chemistry of making mag-- thorium/magnesium alloy occurs, and we think those operations are fairly well covered, to a large extent, although Stu did mention the ventilations in the plant and stuff could vary. But there were also some indications that there were operations where the material congealed in the bottom of these vats and they were chipping away at these materials to remove them out of the vats, so this is a lot of thorium activity there, as well as some indication there may have been a -- fires that occurred when they were dumping in the thorium into the vats

themselves. And in addition there's a thorium source term -- thoron source term associated with this of an indeterminate amount because of the degree of in-growth of -- of the -- of the daughter products from the thorium material that they received. And I think -- to my knowledge, there's only one thoron air sample available for this plant, so that -- that exposure pathway is -- is not able to be reconstructed with sufficient accuracy, as well.

DR. ZIEMER: Okay.

MR. GRIFFON: Thank you, Jim. That's what I --

[NAME REDACTED]: Can I --

DR. ZIEMER: Yes.

[NAME REDACTED]: I just want one brief comment --

DR. ZIEMER: You bet.

[NAME REDACTED]: -- on the record. This -- this is very important. Ev-- everybody at NIOSH is now talking -- and we're bantering back and forth all the monitoring data that they have, and I just wanted to put on the record that I have not been given a single datapoint from that plant at all, and we've

asked for it repeatedly. And the -- the -- the two documents we're talking about, the Silverstein '57 and the AEC '60, I've asked for those documents, too, and I think there's a fairness principle that the petitioner is supposed to be afforded the documents that NIOSH has, and I haven't gotten -- I have not seen that at all.

DR. ZIEMER: Okay.

[NAME REDACTED]: So I can't even react to this --

DR. ZIEMER: Okay.

[NAME REDACTED]: -- in any way.

DR. ZIEMER: Let's make sure -- certainly the petitioner's entitled to that information. I'm not sure why we -- will someone follow up on that?

[NAME REDACTED]: I -- I can -- I can tell you that I asked for all of that data on April the 16th in a letter to Larry Elliott, and it just hadn't been produced so I'd -- I'd appreciate getting that.

DR. WADE: We'll follow up.

DR. ZIEMER: We'll follow up. Yeah, thank you. I'm just noticing something in our wording --

in our boilerplate wording which we have been using where we say we are recommending a Special Exposure Cohort for these individuals. Now actually, technically, there is one Special Exposure Cohort, and all of these groups become mem-- classes of the cohort. This is not a new SEC. I think our wording, Jim -- and this would be a friendly amendment -- would be to -- we might say recommend Special Exposure Cohort status or something like that, but we are not recommending a new Special Exposure Cohort. There is only one Special Exposure Cohort and all the groups become mem-- classes in the cohort. So would -- without objection, can we modify that a little bit so that it --

DR. MELIUS: Yeah, that's fine.

DR. ZIEMER: -- it's technically correct. We've been using this language right along and I suddenly realized it probably -- it -- the Secretary is able to understand what we really mean and give the right language to Congress, but perhaps we can modify that.

Any discussion on this motion?

(No responses)

Are you ready to vote?

(No responses)

Okay. All in favor of the motion, raise your right hand.

(Affirmative responses)

And there appear to be no noes and no abstentions. The motion carries.

DR. WADE: The motion -- yeah, the motion carries unanimously.

DR. ZIEMER: Thank you very much. It would be appropriate to have a follow-up motion dealing with the issue of the extension of time. Jim, are you prepared to make a motion or -- because what I was going to say, we may need some wordsmithing and if so we can move ahead and then return to this, but...

DR. MELIUS: Depends on -- whatever people -- let me wri-- let's come back to it. That may be better.

DR. ZIEMER: What I'm going to suggest is that -- in -- in fact, let me ask if -- I'll do this in a general way. Does the Board wish to have a motion where we can deal with the issue of extending the covered period? Is there general agreement that we would like to have such a motion; and if so, it would include some

tasking issues related to that.
Wanda, a comment?
MS. MUNN: Very much in favor of having such a motion.
DR. ZIEMER: Yeah, I -- it seems to be --
MS. MUNN: The wording of it seems to be critical and probably will take more than five minutes to do. Perhaps we could take a 20-minute break and give Dr. Melius some --
DR. ZIEMER: Yeah, well, I was hoping we would plow ahead without breaks and people would take them as needed, but we may need to -- we may need to do that. Maybe a ten-minute comfort break, but we need a couple of people to develop some wording. Let me -- who's going to volunteer --
DR. MELIUS: I'll develop some.
DR. ZIEMER: Jim -- and Wanda can -- will help you, if needed. She's a word expert. But let's make sure we cover requesting the Secretary to do some things on behalf of -- or -- think about the Secretary's involvement, if we wish to make it a recommendation to the Secretary, and then whatever tasking we need for our contractors and whatever we request --

DR. WADE: And NIOSH.

DR. ZIEMER: -- NIOSH to do so that we can be prepared to take action. And so we'd have two things going on. One would be the change of the -- the definition of the covered period, and the other would be the evaluation of whether dose can be reconstructed during that period.

DR. WADE: Right. I need to say for the record that if the Board tasks NIOSH and SC&A to evaluate the question of whether thorium dose can be reconstructed during the residual period, that you're asking them to -- to evaluate a hypothetical at this point because at this point thorium dose during the residual period is not on the table. If our other actions are successful, then that issue could be on the table. And I don't want to create a situation where NIOSH could come back and say we cannot reconstruct thorium dose, and then the assumption be made that that immediately would qualify for an SEC. We have to deal with the issue of whether thorium dose is legitimate to consider during the residual contamination period.

DR. MELIUS: Yes, but --

DR. ZIEMER: Okay.

DR. MELIUS: Can I just clarify? I mean I also think we need a -- need to make sure this is done in an expeditious manner, and -- and I think that's the -- I think it's understood that there are -- it's hypothetical, to some extent, but at the same time I don't think we want to have a sequential series of meetings to address this.

DR. WADE: I agree completely.

DR. ZIEMER: Okay. So let's go ahead and take as brief a break as we can, ten-minute break -- comfort break, and we'll go from there. Thank you.

DR. WADE: Come back to Chapman Valve.

DR. ZIEMER: And then we'll come back to Chapman Valve, as well.

(Whereupon, a recess was taken from 10:43 a.m. to 11:00 a.m.)

CHAPMAN VALVE SEC PETITION
DR. GEN ROESSLER, WORK GROUP CHAIR
PETITIONER

DR. ZIEMER: Let’s get started again. We have the Chapman Valve petition to do. Maybe we'll go ahead -- are we ready to go ahead with that, 'cause Jim is still working on the wording of

the --

DR. WADE: Jim is going to do a -- Jim Neton will do a brief presentation.

DR. ZIEMER: Okay. This is Chapman Valve, and between Gen Roessler and Jim Neton we'll come up --

DR. NETON: We'll tag-team here. I just have a few brief opening remarks to remind the Board as to a little bit about the history of what's -- what's gone on at Chapman Valve and what happened there during the AEC or AWE period. If you recall, Chapman Valve evaluation report was presented at the Las Vegas Board meeting in September of 2006, and it was recommended by NIOSH that we can do dose reconstructions for this class, they were feasible, and essentially that the class would be denied based on the proposed definition. I know Dr. Roessler has a lot -- detail about all this behind us, but I just want to remind her that we had presented that in Las Vegas.

And just a little brief sketch as to what happened -- transpired at the Chapman Valve facility, they had a two-year contract period to do AEC work to machine uranium slugs for the

Brookhaven Graphite Research Reactor. That is, they started with -- remember Sam Glover talked about the rods yesterday. They weren't necessarily those rods, but 12- to 15-foot length rods, nominally one-inch diameter. They were segmented into four-inch pieces and then machined to the exact specifications that Brookhaven Reactor needed. They took some outer dimensions off of them and machined in a little button and put a slot in them. That was the extent of their operations with the -- with the slugs.

So as a machine shop, this involved, you know, lathe operations, grinding, cutting, that sort of thing that you'd normally experience in a machine shop.

The operation was fairly small, as some of these sites go. It involved we believe less than 100 people who had Q clearances that were necessary to work on -- on this project. And we did have bioassay monitoring data and film badge data for a good portion of these workers. That's just a brief, thumbnail sketch of what went on there. We can discuss more in detail as we get into it, but I'll turn it over to the

working group and Dr. Roessler.

DR. ZIEMER: Okay. Dr. Roessler?

DR. ROESSLER: Okay, thank you, Jim. The working group members are Dr. Poston, Brad Clawson, Mike Gibson, Mark Griffon and myself. Dr. Poston, as you know, can't be here today so he asked me if I'd make the presentation. I thought I'd give a little timeline here to show where the -- where we've been on this.

In February, 2005 there was a worker outreach meeting at Western Massachusetts COSH office in Springfield, Massachusetts and at that time the TBD was approved.

December, 2005 the *Federal Register* notice, Chapman Valve met the SEC minimum requirements for review and evaluation.

Then in August, 2006 the SEC petition evaluation report was submitted. This is SEC-00043.

And as Jim mentioned, at the Board's September meeting in Las Vegas, the petition was discussed. NIOSH presented their information. SC&A was assigned to evaluate the site profile, and our working group was appointed.

In October, 2006 the TBD revision was

submitted.
In November, November 28th, our working group chair, Dr. Poston, accompanied SC&A staff on a trip to the site and participated in a tour and interviews with the petitioners and workers.
We held our first working group meeting. It was face-to-face in Cincinnati -- well, not really Cincinnati, but at the Cincinnati Airport, as everyone knows we do. That meeting was quite productive. At that time NIOSH mentioned that they had a good bit of data. I think already at that point they felt they could do dose reconstruction, but a new report had been found that they felt would really support all of their work, and I'll mention that report in a minute.
We got the report, I think it was in early April, and we held a working group teleconference on April 23rd, and I'll mention our conclusions to that.
Just to amplify a little bit what Jim said, the petition -- I've just copied down here and put a couple of things in parentheses just to clarify some dates. It's all AWE employees who were monitored, or should have been monitored,

for radiological exposures while performing Atomic Energy Commission work in Building 23 -- I added the bold -- at the Chapman Valve Manufacturing Company in Indian Orchard, Massachusetts from January 1st, 1948 through December 31st, 1949.

And then in parentheses I've broken down that time period. The first 16 months, January through April 30th, 1949, was the produc-- production period. Production then stopped, and from May to the end of December -- we'll call it a residual exposure period. Then back into the official wording -- and from January 1st, 1991 through December 31st, 1993, another residual exposures period.

I mentioned this report that NIOSH had hoped they would get. They did receive it. It's the -- called the H. K. Ferguson Report, Machining of Uranium for Brookhaven Reactor; was published June 15th, 1949. All the -- the Board got copies of this, the petitioners got copies of it, and I think it's available for anybody who wants it. If anyone in health physics has read it, I think you'll see it's a very impressive report. It describes -- and in

-- for 1949, this is pretty impressive, procedures that we'd be proud of today. It also, in detail, describes the production schedule, the rates of production, the quantities. It has details of the operation with photos, maps and so on.

And the important thing -- or one of the important things -- in this report, it was known that there were minor fires, but the dates weren't known exactly. NIOSH felt they could handle that with their data and their urine bioassay information. But the fact that this report gave the exact dates then makes the NIOSH bioassay information even better. Talked about cleanup and decontamination and waste disposal.

As you've heard, and if you remember from the Las Vegas meeting, even at that time NIOSH felt that they had plenty of data to generate bounding estimates. Chapman Valve had a good, strong health physics program. The -- it was a small program, small number of people. They had -- they have 40 bioassay samples, but because of the Ferguson report NIOSH has concluded they can better handle those bioassay

samples now that we know the dates of the fire. And also additional information is available regarding the process information that's important to dose reconstruction.

The working group then, through their two meetings -- primarily in the teleconference on April 23rd -- decided we agreed -- and this was unanimous, everybody in the working group has read what I've written here; and in fact SC&A has read it and agrees with this conclusion -- that the data for the first 16 months, this was the time of production, it depends heavily on the 40 bioassay samples and other information from the Ferguson report, and then information they had previously. The data for the May 1st through December 31st period, the residual exposures period, depends on the FUSRAP data. And for the January 1st, 1991 to December 31st, 1993, primarily the site characterization that was done in 1991 is the source of information to do dose reconstruction.

So the conclusions from the working group -- and as I've stated, I feel -- we feel unanimous on this, have concurrence from the SC&A staff -- we conclude that the NIOSH approach to dose

reconstruction will provide bounding but claimant-favorable estimates of dose to the workers at Chapman Valve over the periods of interest in this petition.

So based on this conclusion, the working group does not recommend that SEC status is warranted for the Chapman Valve employees.

So that's the end of our working group report.

DR. ZIEMER: Thank you very much. I understand that possibly Portia Wu from Senator Kennedy's office may be on the phone --

DR. WADE: She's not.

DR. ZIEMER: Not? Is --

UNIDENTIFIED: (Off microphone) (Unintelligible) 11:30.

DR. ZIEMER: May be coming on (unintelligible) --

UNIDENTIFIED: (Unintelligible) and she'll be back on the call at 11:30.

DR. ZIEMER: Oh, okay. How about William Powers from Representative Neal's office? Okay. Thank you. This report is open for discussion and action. Mark?

MR. GRIFFON: I -- I -- I think just one thing to add. I'm not -- I think we ha-- we might

need a motion similar to what we just talked about with Dow on this. We already -- in the workgroup process we brought up the question of operations outside the defined period of time -- outs-- outside the defined -- covered time period, sorry, and this came up because of a -- a potential enriched uranium sample, it's not completely sure if it's a -- it's a valid sample or whatever, but there was some potential that there might be some enriched uranium there, which led to -- there was also some interviews, or at least one interview of an individual that did identify some other potential work, possibly in another area, prior to the defined time period. And I think -- Larry already has this information. I think NIOSH did pass this along to DOL. I don't know if we need a formal motion to make sure we -- we consider time periods outside the defined time frame or if that's underway. I just wanted to make sure people knew about it.

MR. ELLIOTT: If I -- if I could, it's good to get it on the record, Mark --

MR. GRIFFON: Yeah.

MR. ELLIOTT: -- and you -- the working group

asked that NIOSH send a letter on this issue about Chapman Valve and the enriched uranium sample, et cetera. That letter went out -- it was sent to DOL and to DOE, asking them to look into this for -- for the Chapman Valve petition. We've not heard anything back.

DR. ZIEMER: Okay, thank you. Phil?

MR. SCHOFIELD: Yes, I've got a question. Maybe somebody could answer this. On the second residual period, was there any bioassay samples?

DR. ZIEMER: Jim Neton -- Neton?

DR. NETON: No, there are no bioassay samples during the residual period.

MR. SCHOFIELD: What kind of film badging was done, if any?

DR. NETON: We have no -- no film badge data for the residual period, as well. We have no indication that workers were actually actively working in those areas, but we based it on the dose rates that were obtained during the FUSRAP characterization where they had gamma measurements about the facilities and what the levels of contamination were -- residual contamination was left in the building. So

it's -- it's sort of our standard residual contamination model for those periods. There was a fairly concerted cleanup effort that's documented in the Ferguson report as to what levels they decontaminated the building to, so we have a fairly good handle on what was left there. And then we would use resuspension factors that we would typically do in those periods to estimate internal dose, and then first principle gamma dose rates coming off of what's left.

DR. ZIEMER: Thank you. Dr. Melius?

DR. MELIUS: Yeah, one question for you, Larry. What was the -- when did you write to DOL and DOE about that issue?

MR. ELLIOTT: The letter that I wrote to DOE and DOL spoke about what Mark just referred to, the --

DR. MELIUS: Right.

MR. ELLIOTT: -- the issue of one enriched uranium sample, questioning whether or not there was any other AEC-related work --

DR. MELIUS: Right.

MR. ELLIOTT: -- beyond what we understand in the class -- or in the, excuse me, facility

designation.

DR. MELIUS: And when -- my question was when did you write that. You said you --

MR. ELLIOTT: Oh, I'm sorry --

DR. MELIUS: -- hadn't received a response and I was ask-- trying to figure out how long has it been, is it --

MR. ELLIOTT: It was --

DR. MELIUS: -- a week or --

MR. ELLIOTT: -- close to two or three days after the working group meeting when they asked me to do this. I don't have the letter in front of me. I don't know exactly what the date was.

DR. ROESSLER: Is that the April 23rd --

MR. ELLIOTT: April 23rd?

MR. GRIFFON: No, it was the one before that.

MR. ELLIOTT: The one before that.

DR. ROESSLER: February.

MR. ELLIOTT: Yeah.

DR. MELIUS: So it's --

MR. ELLIOTT: I asked Libby where they were at on this when I saw her day before yesterday, and she said they were still trying to explore whether there was any documentation to support

such.

DR. ZIEMER: Okay. Wanda?

MR. GRIFFON: Is there --

DR. ZIEMER: Wait a minute, hang on.

MR. GRIFFON: Oh, I'm sorry.

MS. MUNN: No, go ahead. Go ahead, Mark.

MR. GRIFFON: I was just going to ask -- and I'm on the workgroup, but we've got so many sites juggling around in our heads -- I thought there was a time period where you were looking for more information on the remediation aspects, or -- or is that -- just the '91-'93 --

DR. NETON: That's correct, that's the reason that this class definition stops at 1993.

MR. GRIFFON: I just wanted to make sure --

DR. NETON: There was a -- a --

MR. GRIFFON: -- Phil knew that. Yeah.

DR. NETON: There was a DOE remediation that was conducted in 1994 to 1995 -- I should have mentioned, that's a good point, Mark.

MR. GRIFFON: Yeah.

DR. NETON: We don't have -- we're still searching for information -- I believe that was Bechtel that was doing that remediation and

we've got -- have requests for information in to them for those two years, and as soon as we find that out then we can weigh in as to whether or not we can do dose reconstructions for the '45 -- or '94/'95 time period, so we purposely truncated this at '93 because that's the extent of where we felt we had sufficient information to evaluate.

MR. GRIFFON: And the '91 and '93 time frame was not the people that were doing the FUSRAP cleanup. That was --

DR. NETON: No, that was just the FUSRAP data that was used to estim-- to do the residual contamination model.

MR. GRIFFON: But why was that '91 to '93, why not before '91 -- I'm -- refreshing (unintelligible) --

DR. NETON: '91 is also covered. The petition -- the original proposed -- the definition proposed by the petitioners asked for us to look at '48, 49 and '91 to '95.

MR. GRIFFON: Okay.

DR. NETON: So that's what we did, and then we said '91 to '93 for the reason that we just discussed.

DR. ZIEMER: Okay. Wanda?
MS. MUNN: It would seem unwise for us to continue to postpone action on this on the assumption that some other information may be developed. If some other information is developed for some other period, nothing precludes our taking that into consideration at that time. Am I incorrect?
DR. ZIEMER: Huh-uh.
MS. MUNN: Then if that's the case, I would move that we accept the recommendation of the working group and pass that recommendation on to the Secretary, recommending that the SEC, as stated, be -- not be accepted.
DR. ZIEMER: Okay, you've heard the motion. Is there a second?
MR. CLAWSON: I second it.
DR. ZIEMER: Seconded. Further discussion? Dr. Melius?
DR. MELIUS: Yeah, I'll actually object to that. I think, given that there's at least two requests out for additional information, seems to me it's just easier to postpone and let's see if anything comes back. I think some of these requests are relatively recent and let's,

you know, keep this open, get the information back -- unless I'm misunderstanding some of the time periods involved.

DR. NETON: I'm sorry, I might've -- I had a sidebar conversation; I might have missed something. But I want to be clear that the requests for additional information are outside the current designated covered period on the DOE web site. This is a -- the --

DR. MELIUS: Okay.

DR. NETON: -- the main impetus was the fact that a worker interview with one of the SC&A members had recalled that they -- they had done some work with -- what were they --

DR. MAKHIJANI: (Off microphone) (Unintelligible)

DR. NETON: Yeah, Arjun -- Arjun can explain better, but it gave some indications that it would have been maybe some -- some work from Oak Ridge involving enriched uranium operations, but it would have preceded the 1948 period.

DR. MAKHIJANI: Yes, during the interview there was a worker who'd worked in a different part of the project during the Manhattan Project,

and the worker was very clear that this was during the Manhattan Project, that there had been equipment from Oak Ridge that appeared to be -- to me, when I researched it later -- from the electromagnetic separation project there during the Manhattan Project. And this worker was also reasonably clear that shortly after the end of World War II, sometime probably in early '46, that that operation had terminated. The other relevant pieces of information are that this worker knew where that work was carried out. It was in a different facility. And the explanation for the enriched uranium sample at the site was that the equipment, which was rather large, came from Oak Ridge by train to the main site and then was transferred to -- by -- to a truck, so that if there had been contamination on this equipment of enriched uranium, you'd have an explanation for why there was only a little bit found at the main site.

So those are the relevant details.

DR. NETON: So not only is this outside the covered period, it would be also a different facility because, as Arjun said, this was

shipped off to a -- sort of a small operation, I envision like a garage almost, somewhere where (unintelligible) --

MR. GRIFFON: Yeah, I -- I mean I -- I think what -- what -- where I came down on this was basically that there's at least enough questions out there that we need to -- to look into this further, but everything that -- that we had in front of us suggested that for the time period of concern, they had it covered. And I -- I don't want to -- you know, this operation did -- was based on what Arjun said, that was the interview, but the U-235 sample I think was in the -- near the other building where we -- where we were -- you know, the building we're considering on this, you know, so I don't know, there -- there's a -- question marks here and I asked that -- that we -- we just explore that. I don't think it affects the covered time frame for this decision. And in that later time period, that was '91 through '95, as I understand it, was proposed by the petitioner -- the '91 through '95 time frame was proposed by the petitioner, and '93 through '95 is the -- is the question mark there. And

I -- I asked -- I mean there should be -- if Battelle did the remediation, there should be Battelle reports. There -- the waste was shipped to Envirocare of Utah. There might be information there that at least gives us a sense of the magnitude of the operation, that sort of thing. So that -- that's what we want to pursue there. But everything we have suggests during that operational period, as defined by -- by the petition-- or by the-- by DOL that -- that they can reconstruct doses.

DR. ZIEMER: Okay.

DR. MELIUS: I have one further clarification. My understanding from the web site is that SC&A did a report on -- is it a site profile review? Did they ever put anything in writing regarding -- a report regarding the SEC, or do I have this wrong?

DR. MAURO: Yes, we delivered to -- to the Board on December 6th an SEC, as you requested, review and I'm holding in my hands and you folks have already received it. I do note -- I do not believe it's on the -- on the open web because there are a lot of PA -- there are a lot of names in here, and I don't believe it

has yet gone through P-- PA clearance. You have this -- but the Board has this report.

MR. GRIFFON: So -- but -- but the petitioner probably doesn't have it. Right?

DR. MAURO: The petitioner probably doesn't have this report --

MR. GRIFFON: Yeah.

DR. MAURO: -- that's correct.

DR. MELIUS: In five months we can't get Privacy Act clearance on a doc-- I mean --

MR. GRIFFON: Yeah.

DR. MELIUS: -- it's ridiculous.

DR. WADE: I don't know. We'll have to (unintelligible) --

DR. ZIEMER: I don't know the answer to that.

DR. MELIUS: Well...

DR. ZIEMER: Is that the status of it, as far as you know?

DR. MELIUS: It's certainly not on the web site, I can tell you that. I looked, that's why --

MS. MUNN: That's why.

DR. MELIUS: Yeah.

MS. MUNN: That's why.

DR. MELIUS: Yeah, I know, I...

DR. ZIEMER: Okay. Further discussion -- Wanda.

MS. MUNN: Do we have petitioners whose claim falls outside this time period that we're looking at?

MR. GRIFFON: I don't (unintelligible) --

MS. MUNN: Do we have claimants. I shouldn't say petitioners; do we have claimants?

DR. NETON: No, if -- if they fall outside that time period, they're not eligible petitioner -- eligible claimants.

MS. MUNN: No, no, I mean claimants. I'm sorry, I used the wrong term.

DR. NETON: But -- but we would only have claimants who are within the elig-- whose employment falls within the eligible period.

DR. ZIEMER: Labor wouldn't send them forward.

DR. NETON: Or are you talking about the '94/'95 time frame? I'm confused.

DR. ZIEMER: If they were outside the defined period, Labor --

DR. NETON: They're not coming --

DR. ZIEMER: -- would not send them forward.

DR. NETON: We would not have them in our possession if they're outside the covered

period.

MS. MUNN: Okay.

DR. ZIEMER: Any further discussion? Okay.

MR. GRIFFON: But I -- I -- I mean -- I guess maybe, Wanda, what you're getting at -- I mean if in this investigation we find other activities, then DOL would expand that time period and then they may get other -- other people into the system. So right now, no, there's --

MS. MUNN: No, that's what -- wasn't what I was asking.

MR. GRIFFON: Oh.

MS. MUNN: All I was asking is has -- do we have people who have presented claims to Labor whose claims -- whose -- whose employment period was outside --

DR. ZIEMER: I'm not sure we know what Labor has if Labor doesn't send them forward.

MS. MUNN: But we --

DR. ZIEMER: We don't.

MS. MUNN: -- we do not have them.

MR. GRIFFON: By definition, we can't, yeah.

MR. ELLIOTT: We -- we only see the claims that DOL deems eligible under the --

MS. MUNN: I understand.

MR. ELLIOTT: -- covered period. That's all we get.

MS. MUNN: I understand.

MR. ELLIOTT: I have no idea what they -- what they turn away.

MS. MUNN: Okay.

MR. GRIFFON: Right. Sorry I (unintelligible) --

DR. ZIEMER: Further comments? We have a motion on the floor. Motion is to accept the working group's report and to recommend denial of the SEC. Jim?

DR. MELIUS: Yeah, I just want to indicate that I am going to vote against the motion. I -- I really think -- it's the third example we've had at this meeting of, you know, significant delays and problems with petitioners and those outside this group getting access to documents that are -- are part of our deliberations. And we've had what we talked about today with the Dow site and [Name Redacted] (sic) -- [Name Redacted] problems getting ac-- access to information. We had -- I mean which I thought was ever more egregious was with the Rocky

Flats group not having the latest SC&A report. And now we have this report that hasn't been ab-- NIOSH hasn't been able to clear for Privacy Act consideration for six months -- excuse me, five months, don't want to exaggerate.

DR. ZIEMER: Gen, do you know if the petitioners were involved in the discussions and whether or not they have --

DR. ROESSLER: Yes, as far --

DR. ZIEMER: -- the report?

DR. ROESSLER: -- as far as I know, I think both at the meeting face-to-face and the teleconference, I'm pretty sure the petitioners were on the phone and they were aware of our discussions. And of course the petitioners did get that important Ferguson report. Board members got all of the reports from NIOSH and SC&A.

DR. ZIEMER: Do you know if the petitioners got the SC&A report?

DR. ROESSLER: That I don't know. Maybe somebody --

DR. ZIEMER: Do you know, John, if they did?

DR. MAURO: It's my belief they have not,

because I recall when I submitted the report it did have -- I did get some feedback that there -- to -- to the Board that there were -- there was information in there that was considered to be covered by Privacy and that it needed to be scrubbed, and I have not heard back since. So I'm not quite sure where the report is. I do not believe that it was distributed to the -- to -- to the petitioners at this point in time.

DR. ZIEMER: Okay, thank you. Further comments or questions? Anyone wish to speak for or against the motion?

Mark?

MR. GRIFFON: No, I'm just wondering if, you know -- just, you know, should we allow time for that petitioner to rev-- I think it's only the one report from SC&A that the petitioner hasn't seen, and just postpone vote until -- we're -- we're going to have a June 12th meeting now, apparently. I don't think it -- it -- we have a -- a lengthy discussion, quite frankly, involved in Chapman. Maybe we could delay vote until that meeting, as well. I don't know. That's --

DR. ZIEMER: Procedurally you could call for

tabling the motion till a certain date. Mark -- - Wanda?

MS. MUNN: If we're going to have only a one-day meeting in June, I think this -- what has transpired at this particular meeting makes it imminently clear to anyone who's paying attention that enough time has not been scheduled to adequately discuss these issues to the extent that the Board wishes to do so. So if we're going to have only a one-day meeting and we're talking about postponing first one, then two, now three issues for that particular time period, I believe we're fooling ourselves. It's -- from my perspective, these are never going to be easy decisions. We're never going to have full information. We're never going to have the last detail that we would like to have, for many reasons. I believe it's incumbent upon us, it's part of our responsibility, to move forward with the information that we have. The working group spent a lot of time on it. They've reviewed the data that's there. Their recommendation appears perfectly valid.

DR. ZIEMER: Okay. Gen Roessler.

DR. ROESSLER: Although I agree with what Wanda has said, I think this motion is kind of the opposite of what we're mostly dealing with. Quite often we want to act on a timely basis because we have petitioners who are hoping to -- to soon be compensated. In this case we say that the workgroup does not recommend the SEC status because NIOSH can do dose reconstructions. So I think it's a little different situation, so I don't really object to waiting. I think we could probably do it quickly at the June meeting. And I would like to have our workgroup chair present as we vote.

DR. ZIEMER: Okay. Michael?

MR. GIBSON: Are we tied into a one-day meeting in June? I mean could we make it two? You know, could we throw in our deliberations and...

DR. WADE: Once we get you together, might as well keep you.

DR. ZIEMER: Jim?

DR. MELIUS: Yeah, my objection is not to the thoroughness of how we deliberated here, nor the -- the work of -- the actions of the workgroup. I think they've done fine. I --

there -- there is -- we have -- we have petitioners that have not been allowed to see a report that's been, you know, available for apparently -- should have been available for five months or some reasonable time period within that five months, and -- and to me, that just -- you know, blatantly unfair, the process. I mean I have more sympathy for some of the situations earlier where, you know, large amounts of information are -- come up in a short period of time or the -- with the Rocky Flats where there's a -- you know, a report that's done late because the workgroup's working very hard and SC&A to do a thorough job just beforehand. I think there's still some unfairness to that, but in this case it seems to me so blatant that people are -- and I think this has complicated -- my understanding is that at least one petitioner representatives died and so I think there's been maybe some problems on their end in terms of following up on this, but I -- I don't know that for sure, but it seems to me that to be fair, we -- we need to make all the information available that should be made available to the public and to

the petitioners as part of this process --

DR. ZIEMER: Okay.

DR. MELIUS: -- and we haven't and -- and I agree with Gen, I don't see any problem with delaying this action. We're not -- we're not holding up claims and so forth.

DR. ZIEMER: Phil?

MR. SCHOFIELD: I would definitely feel more comfortable putting this off for a little while until we find out a little more about the possible other residual period being added to this, plus the petitioners having a chance to go over what may be new information for them.

DR. ZIEMER: Okay. Jim and then Gen, and again I'll remind you if the Board wishes to postpone, a motion to table would be in order. Okay, Jim.

DR. LOCKEY: You know, I agree with -- with Jim in that -- that I think the petitioners should have an opportunity to look at this. I'd like to ask NIOSH how quickly can you get it redacted?

MS. HOMOKI-TITUS: We have not received that report for redaction so therefore I cannot tell you how long it would take to redact it.

DR. ZIEMER: Okay. I think we heard earlier that the report had been submitted for redaction.

DR. MAURO: But -- but -- no, I submitted the report to the Board and to NIOSH, my distribution. I can't say whether or not it went on.

DR. ZIEMER: Okay, well --

DR. MELIUS: If I understand --

DR. ZIEMER: -- regardless, it needs -- the process needs to occur.

MR. GRIFFON: Right.

DR. ZIEMER: Okay, Gen Roessler.

DR. ROESSLER: I move to table.

DR. ZIEMER: Is there a second?

DR. MELIUS: I'll second.

DR. ZIEMER: This is not a debatable motion. We will vote immediately.

All in favor of tabling -- do you -- do you wish to specify when it comes off the table? That -- you -- you can include that as part of the tabling; otherwise it just goes on the table. It can come off at any time. You --

DR. ROESSLER: (Off microphone) (Unintelligible) just leave (unintelligible).

DR. ZIEMER: Okay, motion to table. All -- all in favor, raise your right hand.
It's clear we have a majority. The motion -- motion --
DR. WADE: It's unanimous.
DR. ZIEMER: Motion is tabled.
DR. WADE: Unanimous vote for tabling.
DR. MELIUS: Can I make one additional comment, which I --
DR. ZIEMER: You may.
DR. MELIUS: -- actually reiterate something I said before. I really think we need to straighten out -- I thought we had done it at the last meeting -- this whole sequence of how reports flow from SC&A through contracting office to NIOSH and so forth over this -- these Privacy Act and other considerations. We still seem to be having problems with them. I'm not sure if it's anybody's fault, but -- and some of it's simply I think some of the timing involved and so forth, but we really need to -- to get this straightened out, figure out what's out -- else might be out there that -- that has fallen between the cracks or whatever and -- and make sure that we have adequate timing on

this. I know we put pressure on counsel's office to do things quickly, but same time, I think we -- we need to at least have some -- a better handle on this whole process so we know what's going on.

DR. WADE: I mean I'll take that as a responsibility. There is a procedure in place. My preliminary evaluation is the procedure in place went in place after the December report was submitted.

DR. MELIUS: Yeah, I suspect so, too, I --

DR. WADE: But we'll look into it and we'll make sure that there's nothing else that's in that sort of limbo state.

DR. ZIEMER: Okay.

(Pause)

ROCKY FLATS MOTION

I'd like to have Board members pull out the written copy of the Rocky Flats draft, the official motion. Let me ask you to make the friendly amendment in our boilerplate language where it says "the Board respec--" -- second paragraph, "The Board respectfully recommends a Special Exposure Cohort..." As I indicated before, this is not a separate cohort. It

becomes part of the regular SEC, so I think the wording might be -- "Special Exposure Cohort status" --

DR. MELIUS: Yeah.

DR. ZIEMER: -- would cover it, I think, so just make that minor change.

The Chair is also aware that the delegation from Colorado would like to have a chance to understand what the -- the definition of "monitored or should have been monitored for neutrons", who that actually covers. And they have asked that the submission to the Secretary perhaps be delayed from my usual 21-day time period which is imposed in -- by directive of this Board, and perhaps to speak to the proposed friendly amendment we can have input from the delegation.

MR. HILLER: Thanks, Dr. Ziemer. Again, I'm David Hiller from Senator Salazar's office, and our concern with the language of the -- of the current motion is regarding the -- the definition of the -- the group of workers that is subject to the -- the inclusion in the cohort, this 1952 to '58 group of workers, because we don't want the Board to recommend

inclusion of a group and have the Secretary approve inclusion of a group of workers, only to have later confusion about which individual workers are -- are truly eligible for the inclusion in the cohort. And we don't want them to face another lengthy or difficult process to prove their eligibility. So what we request is the Board consider an amendment to the -- the current language here, as Dr. Ziemer indicated, number one, so that the -- the letter to the Secretary won't actually go out until after your June meeting; and secondly, that the Board in the meantime ask NIOSH and SCA to provide some guidance in terms of a description or definition of this group of workers who -- who would be eligible for the cohort.

Obviously our interest is that this be -- this group be defined or described in a way that is claimant friendly. But as I said, more than anything we want to make sure that these -- the workers that you intend to be eligible for this class don't end up facing yet another long administrative process down the road when they are actually applying for benefits as members

of the cohort.

DR. ZIEMER: And as I indicated to David, the 21 days is part of our standard procedure. It is not really part of the -- doesn't change the intent of yesterday's motion. It just is a procedural thing that assures that we don't delay in getting the materials to the Secretary. But that's a proc-- an internal procedure that, by agreement with the Board, we can readily change and modify that, so we can do that.

An additional comment here.

MS. ALBERG: Just really quickly, I'm Jeanette with Senator Allard's office, and based on the intent of the Congressional delegation letters -- letter yesterday, I think it might be safe to say that -- the other members aren't here, but they would be supportive of that request and -- and just to clarify, it's not necessarily asking for a delay as --

DR. ZIEMER: Right.

MS. ALBERG: -- as was mentioned. It's more along the lines of let's clarify --

DR. ZIEMER: Clarify who --

MS. ALBERG: -- just to make sure that --

DR. ZIEMER: -- who is covered by this, we understand.

MS. ALBERG: -- we can expand this or -- or keep it as claimant friendly as possible.

DR. ZIEMER: Right.

MS. ALBERG: So thank you.

DR. ZIEMER: And -- okay, go ahead, Jim.

DR. MELIUS: Can I suggest that we -- if my mathematics is correct -- we change it to 42 days, which I think takes us past the next meeting -- and so forth. And then if it can be addressed, you know, in a shorter time period, fine, and then -- you know, if you receive communication --

DR. ZIEMER: Yeah.

DR. MELIUS: -- that people are satisfied -- this does -- as I think, you may have talked to Larry and -- Elliott and so forth, I mean -- involve some discussions with Department of Labor and so forth to -- to work this out and --

DR. ZIEMER: Yeah. Without objection, we'll simply change this to 42 days.

DR. MELIUS: Yeah.

DR. WADE: And for the record, I have a letter

-- I won't read it -- a memo from Pete Turcic. We sent Pete the definition --

DR. MELIUS: Yeah.

DR. WADE: -- he writes back raising certain questions. I think those questions would be best resolved.

DR. ZIEMER: Okay, so that will give an opportunity to resolve those questions. Board members, any other concerns with this wording? Yes, Mark.

MR. GRIFFON: Not necessarily concerns with the wording, since I helped draft it, but I -- I just wanted to, for the record, clarify that when we wrote this language, "monitored or should have been monitored for neutron exposures", the intent was to be as broad as possible. I think we -- we need to be clear --

DR. ZIEMER: I think the delegation is --

MR. GRIFFON: -- for the record here --

DR. ZIEMER: -- simply asking --

MR. GRIFFON: Yeah.

DR. ZIEMER: -- who -- who exactly --

MR. GRIFFON: Oh, yeah, I know, I know, and --

DR. ZIEMER: -- does that cover, and --

MR. GRIFFON: -- and I think we -- you know, I

think we need to task --

DR. ZIEMER: We also want to make sure it's -- it's enforceable in terms of how Labor would administer that, as well.

MR. GRIFFON: Yeah, and we want to understand how Labor is going to interpret and -- and apply it, right, right.

DR. ZIEMER: Yeah.

MR. GRIFFON: I also want to remind the Board that this motion, as it was approved yesterday, left open the other time periods. And this could leave a question in the Secretary's mind, since the main petition covers a much broader period. And one way to handle this would be to add a sentence at the end that would say something like this, and I'll offer t his up as a friendly amendment. "The Board is still considering the possible addition of workers to the class for the time period from -- the time period beyond 1958, and expects to make an additional recommendation to you -- the Secretary -- in the near future." It simply says, you know, we have not -- I'm trying to avoid the -- the idea that we're -- we're not dealing with the rest of this. It simply tells

the Secretary we are going to continue to look at the other time periods and may have additional recommendations.

DR. MELIUS: I think -- I think the -- in general I agree with that. I think there may be a problem -- Mark, you can help me -- about before 1958 'cause --

MR. GRIFFON: Right.

DR. MELIUS: -- do any of these other areas --

MR. GRIFFON: I think it's -- I think it's considering other classes.

DR. MELIUS: Yeah.

MR. GRIFFON: The two things, thorium and the 881 prior to 1960, obviously that's '52 through '60 so --

DR. MELIUS: Yeah, so --

MR. GRIFFON: -- that would be in that period, sort of --

DR. MELIUS: That's what I'm saying, so --

DR. ZIEMER: Adding other workers to the SEC (unintelligible) --

MR. GRIFFON: Yeah, I agree with the intent, I don't think we should put that time in there yet.

DR. ZIEMER: But -- but anyway, that -- that

would be -- we could add that if -- if you wish, just as a heads-up to the Secretary that there is more to come.

DR. MELIUS: Yeah, and I'd accept that as a friendly amendment.

MR. GRIFFON: Yeah.

DR. ZIEMER: So I would just add that at the end. And again, this is going to come back to us now, since we're holding it for basically a month till we get that definition, and at the next meeting I guess we would have a chance to affirm or determine whether any wording changes need to be made to -- to describe that -- that class that we've already designated.

Any questions on that?

(No responses)

Okay. Thank you.

SCHEDULING

DR. WADE: You want to try and deal with dates while people are still here?

DR. ZIEMER: Okay.

DR. WADE: We have a call scheduled for the 12th of June.

DR. ZIEMER: Right.

DR. WADE: One solution is a face-to-face

meeting the 12th. Another solution is a face-to-face meeting the 11th and 12th. So I mean I ask for your consideration. Wanda makes a powerful point: To do justice to these complex issues takes time. A face-to-face meeting June 11th and 12th --

MS. MUNN: 11th and 12th.

DR. WADE: -- in Colorado?

DR. ZIEMER: Okay --

MS. MUNN: Well --

DR. ZIEMER: -- shoot for that.

MS. MUNN: -- the question then arises whether -- if we're not going to be addressing the Rocky Flats issues --

DR. WADE: Well, now we move to the second question --

MS. MUNN: -- so roughly --

DR. WADE: -- now that we have the 11th and 12th on the calendar, does the 11th and 12th serve the purposes for Rocky Flats?

MS. MUNN: Yeah, that's the question.

DR. WADE: Now we have to ask that question. Robert?

MR. STEPHAN: We just wanted to make sure that -- oh, are we coming back to the second Dow

Madison petition before everybody leaves? Motion, I mean -- Dow Madison motion?

DR. MELIUS: (Unintelligible) yes, we are.

DR. ZIEMER: Yeah. Okay. Yeah, yeah, a separate --

DR. MELIUS: Well...

DR. ZIEMER: Comment, Jim?

MOTIONS FOR NIOSH TASKS

DR. MELIUS: I don't know if this is the right timing on this, but there's this other piece of paper which (unintelligible) --

DR. ZIEMER: Right, that's -- that's the --

DR. MELIUS: -- (unintelligible) that may --

DR. ZIEMER: That's the follow-up on this.

DR. WADE: Right, and whether the 11th and 12th is now realistic.

DR. ZIEMER: We have the issues of tasking our contractor and also asking NIOSH to do some related things. And Board members, you have a document and -- is this a motion?

DR. MELIUS: Uh-huh.

DR. ZIEMER: Who's presenting this motion?

MR. GRIFFON: Jim (unintelligible).

DR. ZIEMER: Jim, are you --

DR. MELIUS: Mark and I also did this.

DR. ZIEMER: Would you read the motion?

DR. MELIUS: Okay. It's in front of everybody. Thorium issue, SC&A has concluded that the NUREG.1400 -- 1400 approach is not appropriate or bounding. NIOSH contends that they have other process-specific data that could be used to bound worker doses. NIOSH needs to demonstrate this by documenting this new approach and completing example dose reconstructions.

Building 881, there is no Building 881 external monitoring data the 1950s. NIOSH has provided information about the processes along with the data from the early 1960s, suggests that their coworker model may be used to bound gamma and beta doses for Building 881 workers. NIOSH needs to demonstrate this by documenting this new approach and completing example dose reconstructions. In addition, the possibility of plutonium exposures in this building needs to be addressed.

Number three, neutron doses 1959 to 1970. The current NIOSH approach relies on application of a central estimate of a building-specific neutron/photon ratio to estimate doses. The

workgroup has remaining questions whether this approach will be bounding for all workers. NIOSH has additional data that may be used to estimate a bounding neutron/photon ratio which could then be applied to bound worker doses during this time period. NIOSH needs to demonstrate this by documenting this new approach and completing example dose reconstructions.

That -- that would be the motion in terms of giving instruction to NIOSH, trying to be as specific as possible without sort of tying -- tying their hands on this. And my -- my understanding from discussions was that I think there wa-- the first two I don't think were necessarily problematic in terms of timing by June. I'm not sure about the third one, the neutron dose issue. I don't know if anybody from NIOSH is here to speak to that, but...

DR. ZIEMER: Okay. Yes?

MR. RUTHERFORD: What was the third issue?

DR. MELIUS: The neutron doses '59 to '70, whether --

MR. RUTHERFORD: I thought Brant -- in discussions, just casual discussions, he seemed

fairly confident they could address the issue in a reasonable time frame, so --

DR. MELIUS: Okay.

MR. RUTHERFORD: But that's -- I can't speak to him.

DR. WADE: Where's Jim?

DR. MELIUS: La-- Larry, in equally --

DR. WADE: Get Jim Neton.

DR. MELIUS: -- Larry, in equally casual discussions, wasn't sure, so...

DR. WADE: (Off microphone) (Unintelligible) style, so...

DR. ZIEMER: Okay, well, this is the motion. Here's Jim, let's relay the question to Jim.

DR. WADE: And then John Mauro needs to be heard as well.

Jim, what we're doing is we're trying to deal with the issue of June 12th as a target date for the Board to be able to deal with the three open technical issues on Rocky Flats. There is wording that I'm sure you've seen --

DR. NETON: Yes.

DR. WADE: -- that tasks NIOSH with certain activities. Again, we want to -- what we're hoping for is the ability for NIOSH to do its

work in a timely way that will allow for a review by SC&A and the Board leading up to a June --

DR. ZIEMER: And the petitioners.

DR. WADE: -- and the petitioners, leading up to a June 12th decision.

DR. NETON: I think two out of the three are doable in fairly short time frame. The neutron/photon ratio re-evaluation, though, could take some time. It's my understanding that's in an access database, so Brant would be in a better position to answer that, but -- is it -- is it going to follow that we would have a working group meeting in between to --

MR. GRIFFON: I would assume we have to and -- and I -- I'm trying to estimate backwards --

DR. NETON: Yeah.

MR. GRIFFON: -- and I also don't want to get into a position where we deliver or don't deliver a -- you know, some kind of additional materials or report --

DR. NETON: Right.

MR. GRIFFON: -- to the petitioner the day before we show up in Denver, you know --

DR. NETON: And one of my other concerns is I

think there's a --

MR. GRIFFON: -- so...

DR. NETON: -- the last sentence instructs us to evaluate potential plutonium exposures in 881.

MR. GRIFFON: Yes.

DR. NETON: That -- of course you know that -- that could take more time than -- than we'd like. Sometimes these searches aren't, you know, immediate, but -- it -- it's hard -- it's hard to determine --

MR. GRIFFON: Yeah.

DR. NETON: -- if we could really meet the June 12th deadline.

MR. GRIFFON: I mean maybe -- can I ask Joe from -- 'cause you've been the program director for this project from SC&A, what's your thoughts on the...

MR. FITZGERALD: Well, I think, you know, when we laid out this issue in the report, you know, we indicated that '59 to '70 would be a challenge. We raised a number of issues that would have to be addressed. I would share some reservations about not just simply the analysis from NIOSH, but whether we would in fact have

the time and back-engineering -- you know, given the fact that the experiences we need a week to inform the Board and the Board having a chance to digest, if you back-engineer that time, it seems like we probably have a couple of weeks, literally, to be able to come up with some kind of resolution and have time to then, you know, bring that to the Board and then get the information out to the petitioners. So looking at that time frame --

MR. GRIFFON: I was --

MR. FITZGERALD: -- for that one issue, anyway.

MR. GRIFFON: I mean I -- be -- trying to be realistic but also, you know, pushing this, I was thinking of a workgroup meeting in early June. But then that doesn't give us time to --

MS. MUNN: No.

MR. GRIFFON: -- like you said, assess and get final report and get it to the petitioner for June 12th -- or 11th/12th, so...

MS. MUNN: Ought to be late in May, I think.

MR. GRIFFON: Yeah. But I mean I -- you know, I don't know if Jim has enough front time to --

MS. MUNN: Yeah, that's true.

DR. ZIEMER: Okay. So we have that issue. We

also have the -- the interchange on the -- the definition of what is the exposed --

MR. GRIFFON: Yeah.

DR. ZIEMER: -- should have been -- monitored and should have been monitored neutron worker --

MR. GRIFFON: Right.

DR. ZIEMER: -- issue, so there's several issues that have to be resolved in a timely fashion so that we have the materials -- everyone has the materials, Board members, petitioners and our contractors --

MR. FITZGERALD: Yeah, I think the lesson --

DR. ZIEMER: -- in a timely fashion.

MR. FITZGERALD: -- from this last time is even though everybody I think did everything they could, the process time is such that you just need that week, maybe week and a half, in order to accomplish at the end, and I think that's where the squeeze is going to happen --

MS. MUNN: Uh-huh.

MR. FITZGERALD: -- just back-engineering.

MS. MUNN: Right.

MR. GRIFFON: Right.

DR. ZIEMER: Lew's pulling out the schedule

here.

MR. GRIFFON: I think --

DR. WADE: The next meeting --

DR. ZIEMER: We don't want to -- we don't want to come to a meeting and not be prepared, that's --

DR. WADE: June 12th is a call; July 17, 18, 19 face-to-face, September 4 a call; October 3, 4, 5 face-to-face. So the next face-to-face is July 17, 18 and 19.

MS. MUNN: And then we skip all the way to October. Right?

DR. WADE: Right, July to -- then the next is October, with a call in September.

MS. MUNN: That's a long stretch.

MR. GRIFFON: I think that's much -- much more realistic. I mean, you know, I know we have the timeliness issue on the table, certainly. But I -- I don't want to come back unprepared, you know, on these items, so -- you know, we have to have -- and we have to give -- we have to get this report to the petitioner at least a couple weeks in advance. To do that July 17th seems much more reasonable.

DR. ZIEMER: Okay. Board members, what is your

pleasure on this? The -- the motion is -- is to examine these issues, but we need to tie it in with a -- a specific action time.

MS. MUNN: Well, should -- well...

DR. ZIEMER: I'm certainly hearing many reservations about the ability to accomplish this in a timely fashion so that we can act on it. Jim.

DR. LOCKEY: Yeah, I think just have an update in -- in the June call-in meeting about where we are in this process so we know we're on -- our -- our time line's suitable, and deal with it in July. That's what I propose.

MR. GRIFFON: I think that certainly makes sense.

DR. ZIEMER: Lew, if everything is ready by -- we sti-- you still need a couple of weeks. We have to make *Federal Register* notices and so on.

DR. WADE: Right, I -- I can do things in a couple of weeks. I mean -- what are you thinking of, Paul?

DR. ZIEMER: Well, if -- if we -- if we find out, you know, by June 12th that things'll be ready in two weeks or something, do we -- do we

still wait for five or six weeks? That's what I'm asking. How -- how rapidly can we get together?

DR. MELIUS: Can I raise a concern I -- we did publicly indicate to the petitioners and other people that are interested that we would deal with this on June 12th --

DR. ZIEMER: Right.

DR. MELIUS: -- and we would be back here in -- in Denver, and -- and I'm concerned that we at least make some effort -- I think in order to be able to, you know, miss that deadline, I think one is we should talk about it with the petitioners; and secondly, we -- we ought to have good reason to, and -- but I -- and a sound rationale, and I frankly don't think we have the information in front of us right now to be able to make that decision. I think NIOSH needs to think of -- look at what exactly needs to be done and how long that will take to do, and then work out a schedule, talk to SC&A and then maybe talk to Mark as chair of the workgroup to see what kind of schedule could be -- could be established and if June 12th is going to be feasible. And then are there

alternatives for -- you know, June 19th or something. I mean we all -- we all have crazy schedules. I know that, and I'm not sure other days will -- what other dates would be feasible, but I think we -- we ought to first, you know, really take a look at -- at what -- whether June 12th can be met or not, and I don't think speculating on it without people having a time to (unintelligible) --

DR. ZIEMER: Well, let me simply point out further that if that can't be done, you almost by default are making the case for -- that you can't move in a timely fashion --

DR. MELIUS: Yeah, yeah.

DR. ZIEMER: -- to reach the decision --

DR. MELIUS: Yeah.

DR. ZIEMER: -- which is, certainly for the petitioners, is one of the main issues.

DR. MELIUS: Yeah.

DR. ZIEMER: And if decision cannot be made in a timely fashion, then you -- it forces the Board, in a sense, to a default --

DR. MELIUS: Uh-huh.

DR. ZIEMER: -- position where you go with what you have and --

DR. MELIUS: Yeah.
DR. ZIEMER: -- and -- because we'll never have 100 percent of the information --
DR. MELIUS: Exactly.
DR. ZIEMER: -- we know that, and what -- at some point you have to say enough is enough.
DR. MELIUS: Uh-huh.
DR. ZIEMER: So -- okay.
DR. WADE: Also on the 12th it's not necessary that you do all of this. Possibly you could get together -- you do have the issue of the thorium definition. That's important. I don't think you want to wait for that beyond June 12th. And possibly you can resolve one or two of these issues --
DR. ZIEMER: Uh-huh.
DR. WADE: -- and then schedule the other -- or as Paul said, face the fact that you can't do it.
DR. ZIEMER: Yes, David.
MR. HILLER: Thank you, Dr. Ziemer. None of the leading representatives of the petitioners are here today, but I just want to echo Dr. Melius's comments that at -- at yesterday's meeting the motion that was passed, the

decision that was made, indicated that this was going to be put off until June 12th.

DR. ZIEMER: Yeah, and I think there's a commitment that was made and we need to honor that.

MR. HILLER: And -- and I want to ratify your comments that, again, timeliness is a crucial issue at this point, more then two years after this petition was filed. And sooner or later you have to make a decision based on available information, and if it -- if -- if the information isn't available, then that probably directs the Board's action. Thank you.

DR. ZIEMER: Thank you. Okay, let's act on this motion then, and the motion then will -- if passed, would ask NIOSH and our contractor and the working group to follow up on these items in preparation for next month's meeting.

DR. MELIUS: Yeah.

DR. ZIEMER: Any discussion?

(No responses)

Okay, all in favor say aye.

(Affirmative responses)

Any opposed?

(No responses)

Motion carries. Thank you.

DR. WADE: Okay, and we have a quorum of the Board at the table.

Now I'm going to schedule a face-to-face meeting of the Board for 11-12 June?

MS. MUNN: Yes.

DR. WADE: Full days, 11-12 June.

MS. MUNN: Yes.

DR. WADE: And then I would suggest that when we have subsequent meetings, we plan on them being three full-day meetings from the beginning of the day to the end of the day.

MS. MUNN: The beginning perhaps being 9:00 rather than 8:00, but...

DR. ZIEMER: The -- very quickly I just want to make sure -- oh, Portia, is Portia on the line now?

MS. WU: Yes, I am.

DR. ZIEMER: Oh, thank you. You -- you may -- may have already learned, or perhaps you didn't, that we have delayed or tabled action on the Chapman Valve --

MS. WU: I heard that.

DR. ZIEMER: Yeah.

MS. WU: And I don't -- I don't know if this is

an appropriate time for me to (broken transmission) Senator Kennedy or if I can (unintelligible) later meeting or (unintelligible) but (unintelligible).

DR. WADE: We're having great difficulty hearing you.

DR. ZIEMER: Yeah, you're breaking up a little bit. Are you still on the line, Portia?

MS. WU: Yes, yes, I am (unintelligible) hear me.

DR. ZIEMER: Yeah, you're -- yeah, go ahead with your comments and -- can you hear us?

MS. WU: (Unintelligible) hear me on the phone, can't you?

DR. ZIEMER: Yes, yes, we hear you, Portia. Go ahead.

MS. WU: Okay, 'cause I think the phone people can hear me okay. I don't know (unintelligible) --

DR. ZIEMER: Yeah, go ahead. Go ahead.

(NOTE: The audio was not properly connected and only random words were clearly understandable for transcription.)

MS. WU: (Unintelligible) Board recognize me, I'm sorry, I got (unintelligible) appreciate

all the work (unintelligible) understand (unintelligible) some discussion about the H. K. Ferguson report which we also found very illuminating. (Unintelligible) not clear about is whether this report has also been provided the petitioners and --

DR. WADE: Yes.

MS. WU: -- (unintelligible) either, so --

DR. ZIEMER: Yes, Portia, the Ferguson report has been provided. The -- the question was on one of our --

MS. WU: The SC&A report.

DR. ZIEMER: Yes, the SC&A report. That needs to be redacted and we have delayed, for one reason, to make sure petitioners get that report.

MS. WU: Okay. And another question I guess (unintelligible) so much detail, I guess it's a question for NIOSH. I know the site profile has been, you know, (unintelligible) and I know these are sort of living documents. Is there any sense of which further revision is contemplated based on subject knowledge or was that incorporated previously?

DR. ZIEMER: Okay. Your question is to NIOSH

as to whether they will be updating the site profile based on the Ferguson report --

MS. WU: Yes.

DR. ZIEMER: -- and here's Jim Neton.

DR. NETON: Yes, we -- we will be looking at -- at the site profile in light of the information contained in the Ferguson report. Although I would say, based on our first pass through, it looks like it -- our site profile is either right in line with -- with what we would expect, or in some cases may be a little overly claimant favorable. So we wouldn't expect exposures to increase as a result of the Ferguson report, I guess is the bottom line.

DR. ZIEMER: Okay. Thank you.

MS. WU: I'm sure we (unintelligible).

DR. ZIEMER: Yes, go ahead, Portia.

MS. WU: And finally (unintelligible) discussion of the enriched uranium situation and (unintelligible) information (unintelligible) how that's being taken into account. And finally I guess (unintelligible) response -- a letter that we're still waiting for a response from DOL and DOE about this or...

DR. ZIEMER: Okay, yeah, let's see, Jim Neton perhaps can answer part of that, at least.
DR. NETON: We have not heard back from the DOE or the DOL on our letter that we sent out, probably several months ago now.
MR. GRIFFON: Well, just -- just to -- and -- and to cover your first question, Portia, that -- that that letter was requesting more information about activities prior to the covered time frame, which might involve that enriched uranium, you know, question or...
DR. NETON: Well, the letter actually requested DOE and DOL to evaluate if the covered period should be modified based on the new information.
MR. GRIFFON: That's what I meant, yeah, yeah, yeah.
DR. NETON: Yes.
DR. ZIEMER: Okay. Go ahead, Portia.
MS. WU: Well, I guess I -- maybe I (unintelligible) out there. Senator Kennedy is very concerned about (unintelligible) and their exposures but appreciate the work -- work (unintelligible) been done and continue going back (unintelligible) about -- about the nature

of the evidence that isn't available and (unintelligible) appreciate your taking the time to (unintelligible) questions about (unintelligible) certain about that, but I know (unintelligible) very hard.

DR. ZIEMER: Right.

DR. WADE: Thank you.

DR. ZIEMER: Okay. Thank you very much, Portia.

MS. WU: Thank you.

DR. ZIEMER: And is William Powers, has he come on the line yet from Representative Neal's office?

(No responses)

Apparently not. Phil, a question?

MR. SCHOFIELD: No.

DR. ZIEMER: No?

MR. SCHOFIELD: Not anymore.

DR. ZIEMER: Board members, make sure you also have a copy of the wording on the Los Alamos draft. It parallels the others. Are there any questions on it?

MR. GRIFFON: Do we have a Rocky question?

DR. ZIEMER: Do we have a Rocky question? Oh, a question here --

UNIDENTIFIED: I just wanted to point out that the SC&A final report is still not available, either on line or in this room.

DR. ZIEMER: Which -- which report?

UNIDENTIFIED: The final SC&A report, the one that you didn't get to the petitioners.

MR. GRIFFON: For Rocky Flats, the sup-- sup--

UNIDENTIFIED: It's -- for Rocky Flats.

MR. GRIFFON: The supplemental --

UNIDENTIFIED: Yes.

MR. GRIFFON: -- or the final, yeah --

UNIDENTIFIED: The -- the last one, that you did not get to the petitioners.

DR. MELIUS: Yeah, that --

UNIDENTIFIED: It's not available anywhere still.

DR. MELIUS: Because NIOSH sent out a -- I got an e-mail yesterday saying it was up on the web --

UNIDENTIFIED: I just looked and I didn't see it.

DR. MELIUS: -- okay, yeah. I haven't looked today, so -- yeah, thank you.

DR. WADE: Could we -- is there someone from NIOSH -- Jim, could you verify that, please?

DR. ZIEMER: I know that when they send out those e-mails about posting, there's usually a time delay of a few hours, at least.

MS. HOWELL: I know that I checked a couple of days ago and, to my knowledge -- but the supplement -- the supplement that was issued last week, is available, as well as the original report with the executive summary. What I'm not sure is available that has been returned to OCAS as of -- by SC&A because there was an SC&A formatting problem, and I believe it was returned to OCAS Monday or Tuesday of this week, is the 500-page attachment portion of the document. But the actual report and the supplement are on line and were on line as of Wednesday night because I checked.

DR. ZIEMER: Thank you. Okay. Well, we can resolve that separately off line here.

DR. WADE: If someone -- possibly we could get with you and verify that.

DR. ZIEMER: Okay. What do we have to cover?

DR. WADE: Now we have --

MS. MUNN: Looking at Los Alamos.

DR. WADE: -- (unintelligible) the Sandia Livermore (unintelligible).

DR. ZIEMER: Okay, we're ready for Sandia Livermore. Sam, you're still here, so take us through that, please.

DR. GLOVER: (Off microphone) Do you know the (unintelligible)?

DR. WADE: We expect to have a quorum of the Board for one hour, until 1:00 o'clock.

(Pause)

DR. ROESSLER: Five minutes to 1:00.

DR. WADE: Okay, wait a minute now.

DR. ZIEMER: Hold on just a moment.

DR. GLOVER: Sure.

DR. WADE: The Dow motions.

(Pause)

DR. ZIEMER: We need -- we need action on the Dow --

DR. MELIUS: We -- we -- we have -- excuse me, Dow, Los -- Los Alamos --

DR. ZIEMER: Well, Los Alamos -- I think copies were distributed. I just asked whether anyone had any wording problems. I'm going to take it by consent, since we approved it, that -- unless there's issues on the wording -- that that's okay.

DR. MELIUS: Okay, well, there -- there's

another issue that the petitioners have asked us to raise -- I think (unintelligible) --

DR. ZIEMER: On Los Alamos?

DR. MELIUS: On Los Alamos. I think first, the letter stands by itself. It doesn't have to -- does not involve the letter, but there's something else I've --

DR. WADE: Let's deal with it.

DR. MELIUS: -- been asked to bring up.

DR. ZIEMER: Okay, go ahead.

DR. MELIUS: Okay. And this refers to the -- the issue of the changes that were made in the SEC evaluation report regarding non-covered buildings. And if you remember from discussions yesterday, they -- that NIOSH is going to give further consideration to a number of -- to evaluating a number of the -- these buildings in terms -- and I think the petitioners were concerned about if this were put in the report or part of the definition, then whether there had been full consideration and whether it would somehow un-- you know, unfairly limit who was eligible for the -- eligibility for -- for the class.

So the motion would be that the Advisory Board

-- Radiation and Worker Health recommends that NIOSH do -- provide further consideration -- locations listed -- it's in Table 5.1 in the report -- which is LANL -- number of LANL technical areas, operational dates and radionuclides, and there's listing TA-1, TA-1-Z, TA-17-19-28, 34, 38, 57, 64, 65, 69, 70 and 74, which were excluded from the current SEC recommendations. NIOSH should report any findings regarding these locations and consider any new information -- report these findings to the Advisory Board at our next meeting, hopefully in July, 2007. And also requesting that SC&A also review these designations and this new information.

DR. ZIEMER: Okay, so that is a motion. Is there a second?

MS. BEACH: I'll second it.

DR. ZIEMER: Now basically that doesn't preclude proceeding with what we have, it would simply -- it -- at a later date, it would expand the class.

DR. MELIUS: Right, and NIOSH has already agreed to do this. I -- I think that what -- the petitioners felt more comfortable if we --

DR. ZIEMER: Proceed on this and --
DR. MELIUS: -- sort of formally recognize that 'cause we aren't recognizing it as part of the letter. I don't think it's appropriate for the letter, and I think the only thing that may be different is having SC&A take a look at this. But SC&A's already evaluating the site profile so I don't think it's asking for a lot be done.
DR. ZIEMER: Okay. [Name Redacted], you have an additional comment on this?
[Name Redacted]**:** Yes, during our discussions with Larry Elliott yesterday I was -- one of the recommendations he made to us was that we ask the Board to direct NIOSH to do this evaluation of those particular areas, so that's the reason why I approached the Board. I just --
DR. MELIUS: Yeah.
DR. ZIEMER: Very good. Any discussion? Jim.
DR. LOCKEY: Just one -- just one question. Jim, is it necessary -- is this going to tax NIOSH -- I'm concerned about Rocky Flats and getting as much done as we can before July -- I mean before June. Can -- could this be -- is this going to stress them, that's what I wanted

to know.

DR. MELIUS: Well, I think if NIOSH reports back to us in July now, they may say we've resolved four buildings, we're not sure about these five and we'll report back to you at the next mee-- you know, I don't think we're asking for a complete resolution necessarily by July, but let them report back. My understanding it's -- you know, they -- they have contractor staff. I think that contractor staff that deals with Los -- Los Alamos is different from that that's involved with Rocky Flats, and let's see what progress they make.

DR. WADE: We don't have a quorum at the moment. We need to wait for Mark to return.

MS. MUNN: Question in the interim. Has a decision been made with respect to location of our July meeting?

DR. WADE: I'm going to get whispered at, which is one of my favorite things.

(Pause)

Okay. So I'm -- I'm informed that we can do the Los Alamos vote because there are two members who are not eligible, but we can't vote on anything else.

So let's take your question first. The July question I have penciled in Hanford, but I'm open to suggestions.

DR. MELIUS: The Ju--

DR. ZIEMER: July.

DR. WADE: The July meeting. The June meeting will be in Denver. July meeting I have penciled in Hanford.

Let's vote on Los Alamos now.

DR. ZIEMER: Okay, so this -- the motion that was just given is -- can be voted on. Any discussion?

(No responses)

All in favor, aye?

(Affirmative responses)

Any opposed, no?

(No responses)

Abstentions?

(No responses)

Motion carries. Thank you.

DR. WADE: Hurry back, Phillip. Now we do have issues on Dow.

DR. MELIUS: Yeah.

DR. ZIEMER: Do we have anything in writing on Dow at this --

DR. MELIUS: No.

DR. ZIEMER: No, okay. Go ahead.

DR. MELIUS: We -- we've already -- we approved verbally a letter --

DR. ZIEMER: Right.

DR. MELIUS: -- that -- that I read. I have something that -- on my screen that Wanda has worked with me to edit --

DR. ZIEMER: Okay.

DR. MELIUS: -- and approve.

DR. ZIEMER: Go ahead, if you would; read it to us.

DR. MELIUS: Okay, okay. Dow Madison recommendations. The Board authorizes our Chair to write a letter to the Secretary of Health and Human Services asking him to work with the Secretaries of Energy and Labor -- address the issue of EEOICPA coverage for workers at the Dow Chemical Company Madison site during the period from 1961 through 1998. The Board has recently received information indicating people working at this facility may be eligible beyond the current covered period. This new information on -- this new information included information on continued exposures to

thorium in this time period. Extension of the covered period is necessary for the Board to be able to consider Special Exposure status for this group of workers.

The Board also requests that NIOSH extend its evaluation of the Dow Madison site to evaluate the ability -- its -- the ability to conduct individual dose reconstructions for the time period from 1961 to 1998. Board also requests that SC&A evaluate the ability to conduct individual dose reconstructions for this time period. The Board requests that both NIOSH and SCA provide these updates at our next meeting.

DR. ZIEMER: Okay. Let me get this on the floor first. Is there a second?

MS. MUNN: Second.

DR. ZIEMER: Seconded. Now it's on the floor. Yes?

MR. STEPHAN: Thank you, Dr. Ziemer. We would just ask that we -- we clarify that the task to SC&A includes speaking to the -- at least the 11 Dow workers -- I mean this is the crux of the argument -- who have testified to the thorium shipments. Ju-- ju-- just a document review without speaking to the workers, you

know, we feel is relatively useless, so we just want to make sure that SC&A is clear that -- that that is part of their purview and what you're tasking them with on this.

DR. ZIEMER: Okay. Generally we don't get to that level of specificity in the -- in the tasking. We allow a fair amount of flexibility, but they've heard your point. That certainly is open to them in -- generally we wouldn't mandate, for example, speak to these 11 people. But --

MR. STEPHAN: That's clear to you.

DR. MELIUS: Yeah.

MS. MUNN: No.

DR. WADE: Okay.

MR. STEPHAN: We're clear. Thank you.

DR. ZIEMER: Yeah, we're -- we're fine. Any comments or -- or questions? And if we can do anything to -- and -- and Dan, I'm wil-- quite willing to have you help me on this, if we -- 'cause I'll prepare the letter and I'll probably copy you on it before I send it in, but I want to make sure that in making this case to the Secretary that we make him cognizant of the -- the documents that -- that

seem to indicate the eligibility, so --

[NAME REDACTED]: I -- I guess that was my comment. Unless the words "AEC thorium" are added into Jim's letter, as I heard it just now, I don't think the Secretary is going to be persuaded. I mean -- so I think that language -- I -- I -- we need to provide the documents, for sure.

DR. ZIEMER: Well, without the --

[NAME REDACTED]: We need to provide some kind of rationale.

DR. ZIEMER: I think if the Board's in agreement, we will ask that we get Dan's assistance on getting some wording into that. Is that --

DR. MELIUS: Yeah, I mean Wan-- Wanda and I specifically added the mention of thorium to be able to make sure we captured those documents and --

[NAME REDACTED]: I'd be happy to --

DR. MELIUS: -- yeah, I mean --

[NAME REDACTED]: -- happy to do that.

DR. MELIUS: -- that was the intent.

DR. ZIEMER: But Dan, I will -- I will send you a draft and --

[NAME REDACTED]: That'd be great.
DR. ZIEMER: -- as you to --
[NAME REDACTED]: That'd be terrific, yeah.
DR. WADE: Just for the record, I don't think there's any question in anyone's mind that thorium was on the property. The question is was it AEC thorium.
MS. MUNN: Yes. Yes.
DR. WADE: That's the issue.
DR. ZIEMER: And we want to refer to those documents, if necessary, to -- to make that case.
Okay, you ready to vote, Board members?
Okay, [Name Redacted], an additional comment?
[NAME REDACTED]: No, I -- I just want to make it simpler for everybody. I mean the -- the documents that I showed -- here is the Powerpoint -- a printout of each slide in the Powerpoint in what I gave you, so that -- that -- that's all I'm going to have for those documents.
DR. ZIEMER: Yeah, understood.
[NAME REDACTED]: But --
DR. WADE: Thank you.
[NAME REDACTED]: Yeah.

DR. ZIEMER: Yeah. Okay, thank you.
All in favor of this motion, say aye?
(Affirmative responses)
And all opposed?
(No responses)
And abstentions?
(No responses)
Motion carries.
DR. WADE: Unanimously by those present. We should take a deep breath. Is there any other business that we --
DR. ZIEMER: We have Sandia yet.
DR. WADE: Right, but is there anything --
DR. MELIUS: Did we do W. R. Grace?
MS. MUNN: We didn't do that yet.
DR. ZIEMER: We did --
DR. WADE: No, we didn't do W. R. Grace.
DR. MELIUS: We have a letter -- a W. R. Grace letter.
DR. ZIEMER: Well, okay, we have the W. R. Grace draft, don't we? I thought we --
DR. MELIUS: Yeah.
MS. MUNN: We have the letter.
DR. WADE: It was distributed.
UNIDENTIFIED: Did we have a quorum on that

last vote?

DR. WADE: Yes.

DR. ZIEMER: We did.

DR. WADE: A quorum is seven, and I -- I see seven up here.

DR. ZIEMER: Four, five, six, seven -- we're good, yeah.

DR. WADE: Dr. Ziemer counts.

MS. MUNN: Yeah, don't forget the Chair.

UNIDENTIFIED: (Unintelligible)

DR. WADE: And here comes eight.

DR. MELIUS: Eight.

DR. ZIEMER: Okay, you have the wording and it's parallel wording on the W. R. Grace draft. Are there any -- any concerns or objections? I'm going to take it by consent that this is agreeable, unless we hear otherwise.

UNIDENTIFIED: (Unintelligible)

DR. ZIEMER: Standard wording.

DR. MELIUS: Yeah.

DR. ZIEMER: Okay. Without objection now, this will be the letter for W. R. Grace. I will make that minor change in the description of the SEC again on each of these.

DR. MELIUS: I will -- there's a couple of

other typos. I'll e-mail these to you --

DR. ZIEMER: Right.

DR. MELIUS: -- with --

DR. ZIEMER: With that change.

DR. MELIUS: Yeah.

SANDIA LIVERMORE SEC PETITION
DR. SAM GLOVER, NIOSH, OCAS
PETITIONER (LETTER TO BE READ)

DR. ZIEMER: Okay. We're ready, I think, for -- who are we ready for?

DR. WADE: Sandia.

DR. ZIEMER: Sandia.

DR. WADE: And again, I don't have the expectation we'll finish this, but I think we need to begin it in case the Board wishes to task some work to be done, we can do that. So Sam, if you would broach the issue to us.

DR. GLOVER: Thank you. So we're going to discuss the Sandia National Laboratory Livermore Special Exposure Cohort petition evaluation, SEC number 59. This is probably what the first ori-- the concept of SEC petitions may have started out in -- to be added. This is a class of three people. It is a very small, very well-defined cohort. Site history, Sandia Livermore -- Sandia National Laboratory Livermore, SNL-L,

established 1956, provide support to Livermore regarding nuclear weapon design. Its primary mission from '56 to '89 was the design and testing of non-nuclear components for Livermore.

The petition was submitted to NIOSH on behalf of a class of employees on May 5th, 2006, and the class definition provided was all X-ray technologists and materials scientists who worked in the X-ray diffraction and fluorescence laboratory, Building 913, Rooms (sic) 113; Building 913, Room 128; and Building 941, Room 128 from December 1st, 1967 through December 31st, 1990.

Petition was qualified October 4th, 2006 and the *Federal Register* notice published on October 20th, 2006. Evaluation report was issued March 29th, 2007.

The pro-- the proposed class definition was modified by removing Building 941, Room 128 because X-ray diffraction activities in that building began after 1992, which is outside the time period proposed by the petition.

NIOSH evaluated the following class: All X-ray technologists and materials scientists who

worked at Sandia National Laboratory Livermore in the X-ray diffraction and fluorescence laboratory, Building 913, Room 113; and Building 913, Room 128, from December 1st, 1967 through December 31st, 1990.

Sources available for the -- the evaluation report included a draft site profile for Sandia National Laboratory Livermore. This has actually just got finalized. It finalized I believe on Wednesday or Thursday and was put to the web, so the document was not available to the petitioner nor yourselves until very recently.

Technical Information Bulletins include maximum internal dose estimates for certain DOE complex claims, Techni-- TIB on diagnostic X-ray procedures, and internal dose reconstruction procedure TIB-60.

Telephone interviews with former workers include X-ray and fluorescence lab employee on January 9th, 2007; another interview on January 8th; and we also discussed this with the health and safety on January 15th, 2007; ES&H manager at Sandia on the 22nd of January; and also tritium research laboratory January 30th, 2007.

We reviewed 148 documents as part of this, and over 250 documents are currently undergoing classification review at Sandia Livermore. Documentation and affidavits also submitted by the petitioner were reviewed.

As I said, this is a very small class. Right now there is one case which meets this class definition, of which no -- zero -- dose reconstructions have been done. The case includes internal dosimetry and it includes external dosimetry. A CATI was also performed as part of this.

I want to be -- there's -- there's going to be some discussions and I -- there's going to be a letter read into it. At Sandia we ha-- we are still undergoing, you know, additional work. When they -- when they sent in their data to us -- before 19-- the data before 1989 was not included in those submissions, so that's be-- based on how they updated their records. ORAU is working with them to get a complete submission. However, during data capture efforts, internal and external dosimetry through this time period was captured by ORAU for this class of workers.

The petition basis was proposing one or more unmonitored and unrecorded ex-- exposure incidents occurred that can be demonstrated by citing two incidents that occurred in the 22 years that Sandia Livermore operated. One incident occurred in 1978 and another in '79. Both incidents were due to violations of procedures, and actually probably a more correct way of saying was actually an equipment failure in one instance using a X-ray diffraction generator.

Petitioners provided evidence of potential unmonitored exposure with no personal or area monitoring data for that first exposure incident.

And Sandia Livermore did not provide permanently mounted instrumentation for recording ionizing radiation that was emitted. In supporting documentation an affidavit states that we checked the Geiger counter -- checked using a Geiger counter to be sure there wasn't any significant radiation leakage, but the health and safety people insisted on using a scintillation counter to check for scattered radiation.

So radiological operations for this facility included X-ray diffraction and fluorescence laboratory in those stated rooms in that building. The operation included sample -- sample preparation and testing with X-ray diffraction and fluorescence equipment. Some radioactive sources included depleted uranium, small sealed sources and X-ray equipment, beta/gamma but no neutron.

Bioassay data, all three individuals had uranium bioassay from 1975 to 1984. All results were below detectable. External data for the class was obtained. Incident information, shallow dose to the extremity was not recorded in dose of record. However, it was determined in the incident reports, and that's discussed in the sample dose reconstructions.

Internal sources of exposure include depleted uranium. External sources of exposure include deep dose from mixed sources -- they were badged; shallow dose, which also they were badging for; extremity dose; there were no neutron sources.

Sample dose reconstructions were performed

using the following -- male; birth, '92 (sic); diagnosed in 2000; former smoker; they had a continuous employment during the continued (sic) period; bioassay for uranium; they had continuous external dosimetry data and they were involved in the X-ray diffraction incidents.

So the uranium exposure can be reconstructed using the actual recorded bioassay data. These are the -- for those various time frames, either the minimum detectable activities that were basically for the bioassay measurements. If you use those, you can determine what was the missed dose, and this would be for various target organs. As we discussed yesterday, if the organ doesn't concentrate uranium, a very small dose is going to be incurred.

So for renal cancer, .228 rem, whereas for lung cancer you have up to 111 rem; and for a lymphoma, using thoracic lymph node, 515 rem. External deep dose can be reconstruction (sic) from reported dosimetry results, and obviously if all results are less than LOD, we use the missed dose concept, depending on the badge exchange frequency and what the detection limit

was at the time.
Shallow dose can also be reconstructed using actual reported dosimetry results. If all results are less than detectable, again we could look at the missed dose.
From '72 to '82 entire recorded value is assigned in both shallow and deep dose at Sandia Livermore.
Dose assessment was performed by Sandia Livermore for the 1979 exposure incident and is bounding for a similar incident that was alleged to have occurred in '78 but which for no documentation exists. Based on this incident exposure report, an exposure of 23 and a half rad shallow dose was assigned and .09 rad deep dose assigned. These are very low-energy X-rays. Primarily you're going to be shallow dose.
So if you -- looking at the example DRs that were performed, if you're involved in the incident, a cancer located in the beam for a BCC or an SCC, you would see a POC of about 41 percent for basal cell carcinoma, 13 percent for squamous cell, and lung cancer of about 28.4 percent using that data that was

previously discussed -- the uranium bioassay and the external and internal dosi-- other internal dosimetry.

If you were not involved in the 1978 incident, you can see a dramatic drop in the BCC, down to 4.95 percent.

NIOSH evaluates the petition using the guidelines in 42 CFR 83.13, submits a finding in a petition evaluation report to the Board and the petitioner. NIOSH issued this report on March 29, 2007.

They evaluated whether -- is it feasible to estimate the level of radiation exposure to individual members of the class with sufficient accuracy, and is there a reasonable likelihood that the radiation dose may have endangered the class.

NIOSH found that it has available information -- or available monitoring records, process descriptions and source term data that are adequate to complete dose reconstructions with sufficient accuracy for the proposed class, and therefore health endangerment determination is not -- is not required.

So summarizing this that we believe dose

reconstruction is feasible for uranium and external beta/gamma and occupational medical X-rays.

Additional documentation may be obtained from the Document Review \ AB Document Review Board (sic) \ Sandia National Laboratory, a sub-folder.

So with that, I'd take any questions from the Board.

DR. ZIEMER: Sam, is -- this is just one individual or did you say three?

DR. GLOVER: There's actually three individuals.

DR. ZIEMER: Are they alleging -- was the incident a diffraction incident -- was the person getting in the beam?

DR. GLOVER: They -- it was a failure of the shutter, and so they walked in front of the -- it's actually described in detail in an incident report. There was a request by the petitioner to have a -- a letter read in. He had some dis-- some comments on the -- on the evaluation report.

DR. ZIEMER: X-ray diffraction units give terrifically high doses and they're highly

localized. I -- I've seen some skin burns -- if you're in a diffraction beam like one second, you will have a -- a skin burn, but it'll be very localized. It'll be -- almost immediate effect.

DR. GLOVER: There was actually some -- a 1968 document in *Health Physics* that desc-- you can get up to 10,000 R per second dose rates.

DR. ZIEMER: Yes, right --

DR. GLOVER: And it's a very narrow beam.

DR. ZIEMER: Very narrow beam, so on diffraction units you have that, and -- and you have scatter stuff. The scatter stuff of course is much lower and should be picked up by a film badge. But even that, energy-wise, is very low energy since it's already low to start with and then it's scattered. So it would all be shallow dose, I assume.

DR. GLOVER: It was a very large proportion to shallow dose, that's correct. It would be very minimal deep dose.

DR. ZIEMER: So on -- on this incident with the 41 percent POC, that's specifically for cancer later on, not for some immediate somatic effects, I guess.

DR. GLOVER: That is correct.
DR. ZIEMER: Yeah, okay. Gen has a question.
DR. ROESSLER: Not a question. On your second to last slide, on the summary, just for the record, I changed Fernald to Sandia.
DR. GLOVER: I'm sorry? Oh, that would be an excellent point.
DR. ROESSLER: I think you took an old slide --
DR. GLOVER: Unfortunately, we use a template and I missed -- I -- I did miss the --
DR. ROESSLER: See, I'm an editor, you know. I have to pick up things like that.
DR. GLOVER: Thank you, and I apologize for that error.
MS. MUNN: That might be a good idea. I didn't see that.
DR. ZIEMER: Other comments? So the recommendation from NIOSH is that the petition not be granted, that the --
DR. GLOVER: That's correct.
DR. WADE: I've distributed to you a letter from -- I assume it's a petitioner, [Name Redacted] (sic) --
DR. GLOVER: Yes, sir.
DR. WADE: -- [Name Redacted] (sic).

MS. HOWELL: I have the letter to read into the record on behalf of OCAS and Laurie Breyer, who had to leave early.

DR. WADE: Okay.

DR. ZIEMER: Is that a pretty extensive letter?

DR. WADE: Yeah, it is, but he asked for it to be read into the record.

DR. ZIEMER: Okay.

DR. WADE: After this we can.

MS. HOWELL: This letter has been redacted for Privacy Act material, but the Board has in front of them an unredacted version.

(Reading) My name is [Name Redacted] and I am the petitioner. I would like to open by saying thank you to all those who dedicated their time and effort in providing the research so that this SEC claim could be adjudicated. However, as I read the 35-page document I felt compelled to state for the record some corrections and comments. Please note that these statements pertain to the time [Identifying Information Redacted] 1971 to [Identifying Information Redacted], the time I worked in this X-ray laboratory. After discussions about the work environment with others employed there, my

tenure was apparently distinctly different from others' tenures.

As I will not be un-- as I will be unable to attend the meeting or to participate by telephone on the assigned date and time, I would like to request that this submission be distributed to all attendees, including the Board members and the Secretary of Health and Human Services, and be read out loud during the course of the meeting. I am also requesting that the contents of this submission become part of the evaluation process for this SEC 00059.

The following paragraphs demonstrate that my ionizing radiation exposures for the six-plus years of working in this X-ray laboratory cannot be feasibly calculated to any degree of accuracy when using assumptions, estimations and correction factors when exposed -- when exposures went unmonitored, unrecorded, and an/or inadequately monitored.

First and foremost, my dosimetry records for the period in question have not been found. Even if my dosimetry records were to be located it is highly unlikely that they would be --

that they would accurately reflect the radiation dose my body received. The radiation produced from these Phillips X-rays -- X-ray generators was not emitted uniformly. They were more directional in nature. It is therefore highly unlikely that the X-ray beam emitted would strike a tiny target like a dosimeter chip. Furthermore, I frequently wore my security badge and dosimeter at the waistline to prevent them from interfering with tabletop work. In this case the dosimeter was totally blocked by the tabletop of the X-ray generator itself. It is therefore highly unlikely that -- that a reconstruction of the dose would accurately reflect the radiation I was exposed to.

The next topic that I would like to elaborate on is the work environment. As appropriate shielding was not provided, we had to devise our own shielding. This shielding was utilized whenever oversized and classified samples had to be characterized by X-ray diffraction and fluorescence analysis techniques. The shielding consisted of flat pieces of Lucite wrapped with lead tape. The X-ray

diffractometer consisted of a scintillation counter whose detector rotated part-way around the sample chamber. Once the oversized or classified sample was inserted in the sample chamber, the sample chamber cover plate could not be installed. Therefore this Lucite shielding was placed around the chamber and scintillation counter, levering -- I'm sorry -- and scintillation counter, leaving numerous openings by which X-rays could and would be emitted. The leakage was checked and verified with a Geiger counter. Since the scintillation counter leakage was -- I'm sorry -- since the scintillation counter rotated, it was virtually impossible to capture all of the emitted radiation. As the counter rotated, it left a moving opening. From these known leakage points the ionizing radiation was emitted into the room and toward those in the vicinity, depending on where they may have -- may have been standing. This was no secret. The Health and Safety Department provided oversight. As stated in another affidavit attached to the SEC petition, the comment from Health and Safety was "You work with X-rays. That's your job.

You need to be willing to take your turn in the barrel." I believe a comment of this nature testifies to the fact that employees who worked in the X-ray lab, especially in my tenure, were indeed exposed to the ionizing radiation present not only from everyday activities but from accidental exposures as well. Lawrence Livermore National Laboratory employees in comparable job categories and who also utilized Phillips X-ray machines had similar exposure problems with their X-ray equipment. As a result, Lawrence Livermore adopted their own custom-made --made shielding plus installed safety interlocks. Sandia Health and Safety never saw the need for commercial shielding, safety interlocks, or the perm-- or permanently-mounted X-ray monitoring and recording instrumentation. What Sandia's Health and Safety finally did provide was a visual illumination device that was automatically energized whenever the X-ray tube was energized. Unfortunately, it wasn't an interlock device to protect the operators from unplanned events. These X-ray illumination devices were finally installed after my

incident.
Regarding my 1978 incident, the NIOSH SEC petition evaluation report states that both incidents were due to violations of procedure and standard industry practices. This is stated in paragraph 3.0 and again in paragraph 7.4.1.1. For the record, I would like to state that my incident was an unplanned event that resulted from an X-ray shutter interlock failure while calibrating a diffractometer, following a standard operating procedure. The SOP was not violated. Furthermore, I remember that calibrating a diffractometer was quite a lengthy task, taking on the order of two to three hours to complete. The X-ray generator was energized at 40 kilovolts and 20 milliamps. During the course of this calibration procedure the X-ray shutter interlock failed. The failure went unnoticed for approximately 20 to 30 minutes. During this 20 to 30-minute period I was progressing through the calibration procedure. I was therefore in the vicinity of the X-ray generator. To summarize, I was exposed to the scattered radiation that was being emitted from the sample chamber for that

20 to 30-minute period, plus the direct radiation exposure when I placed the fluorescent screen in the sample chamber. Although X-rays were collimated, my exposure, as compared to the incident in 1979, had the potential of being longer -- of being of longer duration and more severe due to the longer exposure period. In paragraph 7.1.2 NIOSH states that they are still attempting to locate individual dosimeter data, if it exists. In paragraph 7.4.1.3 the evaluation report further states that exposure data may be available on microfiche records. Apparently my exposure records were still not available for this evaluation report. I have tried on four occasions over the past five years to retrieve these records. Sandia told me that they do not exist.

In paragraph 9.0 NIOSH states that assumptions have been utilized. In paragraph 7.4.1.2 NIOSH states that appropriate correction factors will be applied, and other paragraphs state that exposures can be estimated. NIOSH used assumptions, correction factors and estimates to determine that it would be feasible to

reconstruct my individual dose and have it accurate. For the six-plus years that I worked in this X-ray laboratory, I do believe it would be fair to say, without my thermoluminescent dosimeters TLD dosimeter data, without any X-ray monitoring and recording instrumentation, and without my incident report, the dose that I received went unmonitored and unrecorded. There appears to be insufficient information to calculate my dose to any degree of accuracy or preciseness.

I've been informed that the X-ray generator was subsequently removed from service because the X-ray generator and faulty shutter could not be relied upon. I do remember providing a security escort for a Phillips service representative who, on several occasions, came to Sandia to work on this particular X-ray generator. Due to an unreliable X-ray generator, additional unknown exposures could have occurred prior to my documented exposure, thus adding more undocumented and unmonitored exposures.

During my tenure in this X-ray laboratory the generators were energized over long periods of

time, hours and even days, to collect data. I would often return to work in the evening time to closely monitor the analyses. On top of the normal influx of clients with their unique samples, one of my tasks was to create a standard file. This involved doing sample preparation and X-ray analyses on nearly every element in the periodic table of elements. When I left this position in February of 1978 this type of workload began to diminish, resulting in less X-ray generator use. I mention this because if my workload involving energized X-ray generators was greater than my successor, it would make sense that my exposures would have been greater. If my exposures were greater, there would have been a greater likelihood of developing cancer. I have been stricken with non-Hodgkin's lymphoma, one of the 22 listed cancers, five times since 1989.

I would like to correct another statement in the evaluation report regarding sealed sources, paragraph 5.2. During my tenure I do not remember performing any X-ray analyses on sealed -- sealed sources. Sample preparation

was performed using a mortar and pestle and was performed in other than a glovebox, as working with gloves would not have been conductive (sic) when handling the fragile glass capillary tubes that hold the ground powder. As stated in another affidavit, we were exposed to numerous toxic materials, including heavy metal compounds, calcogenides, beryllium, beryllium-containing compounds, various form of silica, as well as experimental compounds that had not previously been synthesized, radioactive materials, and numerous agents now considered carcinogenic.

It should also be noted that during my tenure in this X-ray lab, 1971 to 1978, Sandia California did not prohibit eating and drinking in the same laboratory where I ground the (sic) powder in mortars and pestles these radioactive and toxic nuggets. I remember eating my lunch in this laboratory on a regular basis.

The evaluation report states that there is a recommendation of another employee being considered for compensation, but the report failed to mention that his occupational exposures to ionizing radiation and other

unique hazards associated with his employment at Sandia National Laboratory in California were at least as likely as not to have had a detrimental impact on his immune system and overall health. Since 1989 my non-Hodgkin's lymphoma has spread to five different parts of my body, has progressed from an acute to a chronic disease, has transformed from a low-grade to an aggressive type of cancer, and has attacked the cortex of my bone. With each episode I have had radiation, chemotherapy, and a combination of the two. With each episode the treatment placed the cancer in remission. Unfortunately, the cancer keeps returning. On October 4th, 2006 I had the pleasure of a personal conversation with an associate professor from the Department of Epidemiology at the University of North Carolina at Chapel Hill when he came to Livermore for a conference. He told me that he concluded from one study that estimating the magnitude of the risk of radioactive exposure revealed that the relationship was ten times greater than originally thought. I became ill with non-Hodgkin's lymphoma at the age of 39. He did

not think my cancer was genetically contracted. He also informed me that cancers from occupational exposures are characteristic of latent manifestations. I contacted non-Hodgkin's lymphoma -- I contracted non-Hodgkin's lymphoma 11 years after leaving the X-ray lab. In addition, all five of my cancers have been located on the upper part of my body and on my right side, which coincides with my occupational exposures.

These corrections and comments pertain mostly to myself and the years 1971 to 1978. My objective is to provide sufficient proof to establish eligibility for the above-mentioned Special Exposure Cohort 00059. I am in contact with many former workers and other sick applicants. I am therefore in constant reminder of what employment exposures are incurred. If any further documentation or clarification would be needed to adequately support the evaluation process of Special Exposure Cohort 00059, I would appreciate another opportunity to provide additional supporting information.

I believe there is another claimant on the

phone who would like to make a comment. I'm not sure if they're still there.

DR. ZIEMER: Okay, is there an individual on the phone representing this facility?

(No responses)

Hello?

MS. HOWELL: They might not have been able to join us today.

DR. ZIEMER: Okay.

UNIDENTIFIED: (Unintelligible)

DR. ZIEMER: It sounds like maybe -- is somebody there?

[Name Redacted]***:** My name is [Name Redacted]. I am the facilitator for (unintelligible) in which [Name Redacted] (unintelligible) is a member and basically I'm just here to over (unintelligible).

DR. ZIEMER: Okay. Thank you. So you have no additional comments at this time?

[Name Redacted]**:** No additional comments.

DR. ZIEMER: Okay. Thank you very much. Board members, do you have any questions for NIOSH or -- or the petitioners?

(No responses)

Okay.

DR. WADE: We need to talk about a path forward, obviously.

DR. ZIEMER: We have a recommendation from NIOSH if the Board wishes to take action on it. Is -- is there -- did I -- did I understand that there -- this class -- that there may be others added to this class or is this the extent of the individuals that would --

DR. GLOVER: This cl-- it is a -- it is three -- there were three people who worked in that facility.

DR. ZIEMER: Okay. Thank you.

DR. GLOVER: That letter was just received -- that was read into the record. That was not part of the ER process.

DR. ZIEMER: Right.

MR. GRIFFON: Three people that ever worked or three claimants? I --

MS. MUNN: Three claimants.

DR. GLOVER: We have only -- there's only one claim in the system, so there's only three people, yes.

DR. WADE: Sam, do you have a -- what is your intent, relative to this letter now?

DR. ZIEMER: Or is there anything new in the

letter that needs to be evaluated I guess is the question.

DR. GLOVER: You know, you certainly -- as we've discussed, it is a narrow-focus beam, and he added some information. The Sandia profile was not available until yesterday, and so I -- I don't know what the -- that was our evaluation report to the date. Certainly we'd be willing to take that additional information and make sure that -- that there's no change to our ER report. I think that would be fair to the claimant -- or to the -- not claimant, to the petitioner.

DR. WADE: We have two -- Wanda's first and then --

DR. ZIEMER: Okay, Wanda and then Jim.

MS. MUNN: I'd like to move to table this until NIOSH has had an opportunity to review the data that's just been received. I suggest that hopefully that could be done prior to our next meeting in June.

DR. ZIEMER: Okay, a motion to table. Is there a second?

DR. MELIUS: I would be glad to second that.

DR. ZIEMER: Seconded.

DR. MELIUS: Took the words from my mouth.
DR. ZIEMER: That's a very unsanitary way of speaking, but...
All right, a motion to table. All in favor, say aye?
(Affirmative responses)
Opposed?
(No responses)
Motion is tabled and will come from the table after we receive additional information.
DR. WADE: And we're (unintelligible) June -- and the expectation is that NIOSH will take the material, submit it and, as appropriate, modify their evaluation report.
DR. GLOVER: And we'll give that to the Board in a timely fashion before the June 11-June 12 meeting. Is that correct?
DR. WADE: Correct.
DR. GLOVER: Okay.
(Pause)
DR. WADE: The only thing that I would suggest, if we could impose upon Dr. Melius, we had working group reports from all of the working groups. Dr. Melius chairs two, the SEC issue group and the Hanford. These are one-sentence

summaries of the status of the working group.

DR. MELIUS: Well, actually I have about 50 slides on each and --

DR. WADE: And let us know how they turn out. Okay?

MS. MUNN: I'll be here.

DR. MELIUS: Hanford, I actually think I have no -- nothing to -- tormenting me with questions, I'm sure. The Hanford group I think I actually reported on in the conference call and there's really no update from that, and I hadn't heard nor was I expecting to hear anything from our meeting.

On the -- and I actually -- well, on the SEC workgroup, which is the really -- mainly dealing with the 250-day issue, there -- the only change I think from what I reported last time was that we have received a -- a report regarding the Iowa lab, Ames, from SEC -- SCA about that, which was sort of formalizing some of their earlier presentation, and we've -- are making progress with NIOSH on some of the issues related -- the informational issues related to Nevada Test Site. Maybe Arjun or Jim can update.

DR. NETON: We have proceeded down the path of polling those cases that were in those different categories of materials, and I actually received -- shortly from the Board meeting, from the person working on it -- the list of test cases and I have not had a chance to go through them. But when I get back to the office I think I should be able to pull out ones and forward them to the working group and SC&A in a fairly timely fashion.

DR. MELIUS: And -- and I would expect that we would -- not by the June meeting, but possibly by July meeting -- have made some progress, have another meeting of the workgroup. But some of that depends on how mu-- how much material there'll be for Arjun and everyone to review, so I don't want to commit yet.

DR. MAKHIJANI: Yeah, we've -- we've -- we've mostly been awaiting the information from NIOSH, but we also would -- under your direction, initiated some work on Pacific Proving Ground --

DR. MELIUS: Right, yeah.

DR. MAKHIJANI: -- but that's in a preliminary stage still.

DR. MELIUS: Yeah, okay.

DR. ZIEMER: Thank you.

DR. WADE: We're done.

DR. ZIEMER: Well -- Lew indicates we're done. I want to point out that there -- there is one item that hangs free, that's Bethlehem Steel. Now we -- we had on the schedule a presentation on data -- use of data from other sites. Board members, you actually should have in your packet Liz's presentation, but I think -- and we -- we will need to delay that till our next meeting, but I also want to make sure -- 'cause I think, Dr. Melius, you had some specific questions on the use of data from other sites, and we -- I -- I want to make sure that what we're getting is information that answers the questions -- I mean you -- your question was only framed out in a very general sense, that you had questions about the use of data from other sites, and maybe -- maybe some specificity is needed on --

DR. MELIUS: Well --

DR. ZIEMER: -- what -- what are the issues that need to be addressed by the Board vis a vis Bethlehem Steel.

DR. MELIUS: It may be more a question -- how -- how does the Board address that. Let me talk to Liz a little bit and see. There -- there may be some policies on the part of the Department that they don't want to talk about some of these issues, so it may be a waste of our time to have a presentation on this and -- at least --

DR. ZIEMER: Well --

DR. MELIUS: -- in terms of addressing what's in the law and how it got --

DR. ZIEMER: Yeah.

DR. MELIUS: -- into the regulation and -- let me talk to her and see what we can work out.

DR. ZIEMER: Yes, and in any event, the effect is that -- the practical effect is that we -- we end up I would say tabling Bethlehem work until the next meeting --

DR. MELIUS: Yeah.

DR. ZIEMER: -- is the practical effect. Liz, a comment?

MS. HOMOKI-TITUS: I just wanted to clarify that I believe some of the questions that Dr. Melius has would lead us to violate attorney-client privilege, which I'm not sure that HHS

is willing to do, although we may --

DR. ZIEMER: Yeah, you may want to get together and at least --

MS. HOMOKI-TITUS: -- be able to work out a closed meeting or something like that.

DR. ZIEMER: -- learn -- learn the nature of those questions and then, as relevant, we can raise them at the next meeting and -- and try to bring closure on the Bethlehem Steel issue. Is -- are there any other items to come before us then?

DR. WADE: No.

DR. ZIEMER: Thank you.

DR. WADE: I would like to thank those hardy few that remain, and appreciate your work.

DR. ZIEMER: Thank you, everyone. This meeting is adjourned.

(Whereupon, the meeting concluded at 12:52 p.m.)

CERTIFICATE OF COURT REPORTER

STATE OF GEORGIA

COUNTY OF FULTON

I, Steven Ray Green, Certified Merit Court Reporter, do hereby certify that I reported the above and foregoing on the day of May 4, 2007; and it is a true and accurate transcript of the testimony captioned herein.

I further certify that I am neither kin nor counsel to any of the parties herein, nor have any interest in the cause named herein.

WITNESS my hand and official seal this the 15th day of July, 2007.

_____

STEVEN RAY GREEN, CCR

CERTIFIED MERIT COURT REPORTER

CERTIFICATE NUMBER: A-2102